Original Articles.

A STUDY OF CANCER.

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LET it be plainly stated at the outset that the writer does not claim to present a "cure for cancer." He does maintain that the theory here offered is at variance with no known facts, that it explains many hitherto puzzling facts, and that the practical clinical results obtained in every case of scientifically proven cancer and in every case of clinically certain cancer thus far put to the test not only confirm the general truth of the theory, but convincingly indicate that ultimately "cure" is possible. This goal can be reached, however, only by careful scientific treatment of many cases with recorded findings. Warning must be given that inoperable cases alone should be considered until we have more clinical data. Otherwise we are playing with fire.

The writer has much misgiving as to the wisdom of publishing so unfinished a report. He first submitted the report to about thirty of the best medical men in the vicinity and it is through their advice that he now publicly asks that his ideas be put to a general trial that we may the sooner know their true worth.

Acknowledgment should be made to numerous investigators all over the world, for without their long and careful research this report would be not only worthless but impossible. The facts stated can be easily verified by anyone familiar with the literature. It is unnecessary to give the list of authorities as such a list would cover many pages. To any physician interested, however, the author will gladly furnish the source of his information on any point.

Cancer appears primarily only in highly specialized cells. It is presumed that, like other highly specialized things, these cells are comparatively easily gotten out of order; that, doing special work, they need outside help to enable them to do the things an unspecialized cell does for itself, *i.e.* have their food properly prepared, their waste matter properly cared for, etc.,—in short, their nutrition. For this purpose certain cells from the same blastodermic layer are set aside to specialize in this nutrition business. This statement is made here without comment. The evidence in favor of its truth will appear later. These are the so-called ductless glands. As the special work in each case is increased there is a corresponding increase in work of the corresponding cells. For example, during growth the thymus is large and active. The reverse is also true normally; when the need for the special work slackens there is a corresponding slackening of work of the corresponding cells. The thymus (again as a single example) atrophies normally when its work is done, about the time of adolescence. So as age advances both the activity of the specialized cells and the activity of the nutrition governing specialized cells (the ductless glands) normally diminish *pari passu* to a normal physiological death.

Now suppose the balance is upset in any way. The specialized tissues may be overworked to such an extent that their specialized helpers cannot keep up with them; the helpers (the ductless glands) may be congenitally too large and active or too small and inactive; they may by accident or disease likewise over or under functionate; either the ductless glands or the specialized tissues they govern metabolically may from overwork, accident or disease begin their physiological death before their complementaries. We then, in every case of such unbalance, have a pathological process arising,—a disease in short. With some such processes we are fairly familiar: Addison's disease, Graves' disease, myxedema, for example. The conclusion is inevitable that there are other pathological conditions, the basis of which is deranged metabolism and which are caused by similar lack of balance in these highly specialized organs. We have already acquired from many patient workers an immense array of known facts concerning hyper and hypo function of the ductless glands and concerning absolute failure of such glands. Many of the proven facts seem absolutely contradictory, but that must be because we do not yet know the whole truth. One stumbling block is the assumed interrelation of these organs, one hypertrophying when another is quiescent, one apparently preventing the action of another or aiding such action. It is certain that removing one of these glands from an organism does not produce the exact opposite to an excess of the secretion of the same organ, the others being normal in each case. But there is another explanation than the assumption that one deters or aids another, as the case may be. An analogy will best show what is meant. Suppose a man with very poor teeth. Such a man is very apt to have indigestion, though the digestive organs are perfectly normal. He is then apt to be badly nourished, not part of him, but all of him, brain, bone, muscle, everything. But it would be absurd to attribute the irritability of the undernourished nerves, for instance, to an essential correlation between teeth and nerves in the sense that the thyroid and the suprarenals are supposed to be correlated. In the case of teeth and nerves we recognize easily the sequence to be purely mechanical because we can follow every step of the process. Is it not at least as good a hypothesis as any that the thyroid secretion is perfectly independent essentially of the suprarenal secretion and that the apparent intimate relation between them is really an indirect relation, precisely as teeth and nerves are indirectly related? That is, supposing the thyroid secretion fails.

Certain tissues of the body fail to get what they need. In turn they cannot deliver their quota to the organism and the whole organism necessarily suffers more or less, including other ductless glands. At all events, it is certain that failure or excess of secretion of one of these glands soon or late affects the others more or less with resulting symptoms. So no two cases of Addison's disease or of myxedema or of acromegaly or of Graves' disease will be exactly alike and in part may be widely different.

Another thing to consider is the probability of two or more of these organs being primarily at fault in some cases. When we think of the variations possible, the complexity of symptoms in certain cases is no less puzzling, but is at least more capable of explanation. Take, for example, only two glands and arrange the possible combinations which would produce a lack of balance in the whole organism. Such combinations would be in number, as follows, A and B representing the glands:—

1. A hyper
   B normal
2. A hyper
   B hyper
3. A hyper
   B hypo
4. A hypo
   B normal
5. A hypo
   B hyper
6. A hypo
   B hypo
7. A normal
   B hyper
8. A normal
   B hypo

Every one of these combinations would necessarily produce different symptoms. Nor is this all by any means. The degrees of hypo or hyper secretion in each combination may vary without limit. So our puzzling symptoms may remain puzzling but at least solution is seen to be a possibility.

The theory that these internal secretions have direct normal physiological relations with each other in the sense of aids or antagonists does not appeal to the writer. On the contrary, the theory that each secretion is independent of all the others, except in the sense that each is essential to the whole organism and therefore to the working of the others, does seem reasonable. The external secretions work that way. The gastric juice as such is self-sufficient. It neither has nor needs the aid or the inhibition of any other secretion to do its designed work. But if the pancreas is not working correctly, then certainly in time neither will the stomach, not because pancreatic juice is essential as such for the proper working of gastric juice, but because the stomach as well as any other muscle in the body must have its supply of properly prepared carbohydrate food which a normal pancreas can furnish. If the stomach cannot get this particular food it in turn cannot produce a proper gastric juice. It is an indirect relation, not a direct one. Why then assume otherwise in the case of the internal secretions?

Another consideration leads to the same conclusion. The thyroid and the suprarenals are considered in certain directions to be antagonists because they seem to produce opposite effects. But they are derivatives of different germ layers, the suprarenals from the ectoderm and the mesoderm and the thyroid from the endoderm. Also all the successful efforts at therapeutic use of the internal secretions have been either supplying the particular failing secretion or removing the organ doing the hypersecretion; never by administering a so-called antagonist in the case of oversecretion or an "aiding" secretion to help out the failure of an undersecreting organ. For myxedema we give thyroid and for Graves' disease we remove some of the hypersecreting thyroid. To be sure, we do not always succeed. In Addison's disease adrenalin by no means always cures, but for very good reasons unnecessary to discuss here. Suffice it to say that there are practical and mechanical difficulties in a theoretically perfect administration of adrenalin in Addison's disease.

On all accounts it seems more reasonable and certainly more hopeful to consider each internal secretion as essentially self-sufficient and as furnished for some definite work in the economy. Also it is reasonable and highly probable that this purpose is in connection with those tissues in the body derived from the same germ layer as the gland in question. In other words, the thyroid can have no direct function on any but tissues derived from the endoderm, the pituitary body on any but tissues derived from the ectoderm and so on. Table 1 gives all the tissues in the body derived from each of the germ layers. At once an apparently obvious objection arises to this idea. The absolute failure of the thyroid, for example in an infant, may result in a cretin. One of the characteristic symptoms of cretinism is failure of bones to develop properly, and in this case nearly all writers ascribe the bone failure to lack of thyroid and therefore ascribe proper development of bones to proper thyroid secretion. But bones are mesodermic structures and thyroid is endodermic and the theory seems knocked in the head. Nevertheless, another explanation is possible. Certainly bones do not develop properly in a young thyroidless animal, but this may just as well be an indirect result of hypothyroidism. If the thyroid's work is entirely with endodermic tissues it still has a very wide field, all the digestive tract for example. Now it may easily be, in fact must be, that if the digestive tract fails for lack of thyroid, so will all other tissues in the body, bones included. A similar explanation would suffice for all the

other known cases where an internal secretion derived from one blastodermic layer seems to affect tissues of a different blastodermic layer. In fact, as one might expect, all those internal secretions of which we have accurate knowledge actually do affect tissues of widely different origins, but it is just as easy to understand how that is possible indirectly as directly and far more rational.

With this idea as a basis many nutritional diseases at once assume a different aspect and a hopeful aspect instead of a hopeless. Just as an astronomer may be absolutely certain from the behavior of known planets that there must be another unknown planet of a certain size and position, so if we had only known all the facts about, say the thyroid, we could have predicted absolutely that there must be somewhere in the body, without actually having found it, a body like the parathyroid. Likewise we could write out an accurate description of myxedema without ever having heard of it or seen it. We do not, however, know all the facts about the thyroid or any of the other internal secretory organs. We do know a good deal about many puzzling diseases of a plainly metabolic nature, and even with our imperfect knowledge it is decidedly worth while to try to fit these facts together. Often there are too many facts missing to get a satisfactory result but occasionally, just as in a picture puzzle, one piece that has been before our eyes all the time fairly leaps into place and the whole thing is clear, so one long known fact may suddenly be set in its right relation, with the result that the disease and its logical cure are at once plain. An illuminating example of this is malaria. All the essential facts were known for years, but not until the mosquito, an apparently unrelated fact, was put with the other plainly relevant facts were the disease and its prevention at a stroke comprehended.

In studying various diseases of faulty metabolism it suddenly occurred to the writer that cancer is absolutely and essentially such a disease, and at once many things became clear. Let us first set down certain known facts concerning cancer.

1. It occurs originally only in highly specialized cells of epithelial type.
2. Overwhelmingly a disease of the downhill time of life when physiological death has begun its slow course.
3. Generally, perhaps always, a disease first attacking injured cells *i.e* trauma is a predisposing cause.
4. A disease increasing as the complexity of civilization increasingly puts extra strains on the organism.
5. A disease habitually progressing in its course at an ever accelerating pace to death of the organism.
6. A disease especially liable to recur even after most thorough removal of the original focus.
7. A disease generally more rapid the younger the patient; that is, the more vigorous the metabolism, the sooner is havoc wrought by any interference. Exactly as the wreck is more disastrous and speedy from interference with rapidly moving than with slowly moving machinery.
8. Most astonishing of all and perhaps least emphasized of all is the fact that this disease is almost unique in one thing—it is tissue reproduction at a time of life when normally every part of the body is physiologically dying and tissue reproduction failing. Why certain cells at this time should begin to reproduce themselves (atypically to be sure but still reproducing) has always been a puzzle. Not so puzzling, however, if we consider cancer a disease of faulty metabolism as will be discussed later. The growth of fat at about middle life seems to be the only normal growth at such time—and fat is not a high type of tissue.

If we now piece together all the known facts of cancer and all the known facts as to the internal secretory organs we shall evolve a theory of cancer satisfying all the known conditions, hopeful, and very much more convincing than any previous theory.

Let us start then with the idea that this unique reproduction of cells at a time of life when such reproduction has normally ceased, is due to a relative oversecretion of glands known normally at an early age to influence tissue growth. A serious objection at once arises. All cells and all secretions should fail as age advances and fail faster the more work they do. If cancer then is due to an overactive thyroid for example we should expect very many spontaneous cures, because here is a thyroid which has apparently done its full duty for fifty years suddenly doing a lot more work making old cells reproduce. This extra work should make the thyroid fail faster than the other body cells with the result that the longer the cancer grows the more hopeful the expectation would be that it would cease growing for lack of thyroid. But the opposite is the case. The longer the cancer grows the more hopeless it becomes. Therefore, the fault must be a relative failure if we are on the right track at all. Because this failure naturally would be accentuated the longer the individual lived. And failure in metabolism is also always more disastrous in the young than in the aging for manifest reasons. Thus the known fact that cancer is more rapidly fatal in the young than in the old is explainable. Also the fact that cancer is rare in the young and very common at the time of life when general failure begins. Further, relative failure would remain usually relative failure as age advances. Again relative failure is less disastrous the older the patient and we know that in the aged cancer is generally a slow process and may even last for years without appreciable change. Finally the rare but certain cases of spontaneous cure can be explained by a disappearance for some

reason of the relative failure which however must be a rare thing because it is difficult to see how naturally the relation can change much after middle life. Before discussing which gland or glands are probably at fault in a given case it is interesting to consider how the relative failure might have come about.

We know that overexercise always results in premature decay. A brain, a muscle, a blood vessel, a kidney cannot do too much work without resulting premature failure. Suppose then that a pituitary gland, for example, has for a long time been given more work than its fellow ductless glands. It will surely fail sooner than the others. Let us consider what this overwork might be. We know that the pituitary gland has a great deal to do with the proper growth and development of the skin. Now suppose the skin of the lip at a certain spot is for a long time and persistently injured by a hot pipe stem. The pituitary gland is presumably working overtime to repair this injury. Finally it can no longer do this and attend to its other duties because it is getting old and failing naturally. But it is failing faster relatively than the other ductless glands because it has had extra work for a long time. Though apparently a fanciful speculation, this is, I believe, really a factor, perhaps an important one, in the production of cancer of the lip. As to why in this case the cancer starts in the lip, it is not enough to say that it is because there has been trauma. It is common knowledge that cancer very often starts at the site of an injury, especially an injury long continued, repeated and generally mild as regards each individual act of injury. It is the repeated-drop-of-water-wearing-away-a-stone idea. This is not enough, for cancer does not always, nor indeed often, relatively, occur even at such a site. Put the two factors together, however, and the explanation seems more complete: the repeated injury and the failure of the particular ductless gland that controls the normal nutrition of the injured part. Nor is this yet enough. Why should any cell reproduce its kind at a time of life when all body cells are on the down track and physiologically dying? It seems an anomaly. Furthermore, except only the skin and squamous epithelium and possibly some columnar epithelium, which are not very common seats of cancer, none of the body cells subject to cancer can normally reproduce themselves after the period of beginning physiological death has arrived. No glandular cell once destroyed can be replaced by its neighboring gland cells at such a period. These are all highly specialized cells and have lost their original reproductive power, or rather delegated it to other special cells in the generative glands which are the real hereditary individuals. In the cells producing the spermatozoa and the ova reside the only real continuous life. All the somatic cells live as long as the individual only. They are creatures of a day, serve their purpose and die. The life is continued, reproducing, with all its inherited traits, only through these comparatively few highly specialized generative cells. And here is the anomaly: in cancer we have body cells abandoning their specialized functions and returning to the essential primitive function of all living things, reproduction; and that too when theoretically they should be physiologically dying. Therefore, there must be some factor other than failure of some ductless gland or glands, and trauma. I believe the explanation to be either one or both of two events. In the first place it seems highly probable that cancer *always* occurs at the site of cell injury for the following reasons:

1. Cancer certainly does occur often at the site of a known injury.

2. Organs which are most protected from injury are the rarest seats of cancer.

3. Organs which are most exposed to injury are the commonest seat of cancer, with one enlightening exception,—the skin.

4. The skin. But even here, remember that skin cancer is commoner by far in men than in women; men are far more exposed to skin injury than women. The reason why cancer of the skin is rare in spite of frequent injury will appear later.

5. Even those organs, apparently well protected, which occasionally are the seat of cancer may conceivably be injured, *e.g.* the kidney by stone, and the liver ducts similarly. Also it is confirmatory of this idea, that cancer of the gall bladder and the ducts is far commoner than of the liver itself.

(To be continued.)

MEASURED FEEDING FOR OLDER CHILDREN.*

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THE feeding of infants has become an art made possible by percentage feeding of milk and other foods, the constituents of which have been determined with almost absolute precision. Indeed exactness has been carried to such a degree that sometimes the physician's judgment is led astray by laboratory analyses. In the case of older children this condition does not obtain. In fact food is prescribed by the physician in most indefinite terms or else not prescribed at all. Such expressions as "Give the child good, nourishing food and plenty of it" or else "Be sure the child does not take anything indigestible" disposes of the whole question. Sometimes the physician may ease his conscience by adding

* Paper read and food exhibit shown at the meeting of the Suffolk District Medical Society, Jan. 22, 1913.

"Not too many sweets and no tea or coffee." It seems superfluous to state that this method of dealing with the diet of the growing child is a poor one, but it is met with so often that it demands most serious attention. Someone has well said "Why do physicians exercise so much care in prescribing drugs that are administered only occasionally and so little care in prescribing food which is taken daily." This neglect of the proper supervision of the feeding of older children is responsible for many serious diseases of early life and especially for many disturbances of the nervous system that are most difficult to remedy.

For the proper feeding of the child both physician and parent should have an adequate knowledge of food and food values. Three principal methods are in use for measuring food. In one all food is divided in portions of 100 grams and tables made out for the caloric values of each portion. This method is not readily adopted by either physician or parent, as it requires a mental readjustment of values which is a serious obstacle to its success. We buy food by the ounce or pound. All infant feeding in this country is by ounces. The change into other standards of measurements renders the method impractical except for laboratory work. A second method consists in adopting the ordinary serving as a unit of measure. This method is incorrect because what is an ordinary serving for one person is not so for another. This method also lacks an important factor present in the other two methods—namely, that of comparison, which is a great aid to memory. The third method, proposed by Irving Fisher in 1906, is called the callorie per cent. method. Prof. Fisher prepared tables indicating the amount of food necessary to furnish 100 calories of food value, such amounts being used as standard portions. For example, one slice of bread has a value of 100 calories; also one pat of butter or the lean meat in a lamb chop, or five ounces of milk or one slice of bacon. These units or multiples of units represent very closely the amount ordinarily taken at one serving, so that food can readily be served according to this plan. It gives at first hand, comparisons that help fix food values in the memory, the knowledge of a comparatively small number of which is sufficient to cover all our needs in any particular case. Sufficient information can be given in a short conversation to enable a person to raise or lower his diet 500 or 600 calories daily, which is an amount sufficient to cause a gain or loss in weight as desired.

For a child who is six to fourteen years of age, ten to twenty pounds under weight, and who continues his usual occupations, between two and three thousand calories of food per day are necessary for proper gain.

Having then a practical measure of food values, in order to make a child gain or lose body weight, the following steps are necessary: In the first place we must secure the co-öperation of the child. This can be obtained by what Dr. Morton Prince calls painting pictures. All girls want to be attractive and beautiful. They also want to do as other girls do, dance, swim and play tennis. Every boy wants to be athletic. The desire to play baseball and football can always be aroused in him sufficiently to cause him to do almost anything to gain a good physical condition for that purpose. Next there must be a sufficient control of the patient by parent or other person acting "in loco parentis" to secure a record of food taken and a regular report at stated intervals. The method I have found to work to greatest advantage with these older children can perhaps be best shown by the following case.

Thomas R., aged fifteen years, was a boy active in mind and body. He was ten to fifteen pounds under weight. Examination showed good physical development, all organs entirely normal. He was told that in order to make a good showing in athletics he ought to gain fifteen pounds. He at once said he was willing to follow any directions if he could gain, especially as he was going into a summer camp and wanted to stand well with the other boys. He was directed to keep a 48-hour list of all the food he ate and report at the end of that time. The 48-hour list showed the following points. The boy took no cereal, practically no milk, cream or butter. His average 24-hour amount was 1400 calories. He was told it was impossible for him to gain on that amount of food, that he must take at least 2000 calories. Asked why he took no butter he replied, "Why, does butter make any difference." He was surprised to know that a pat of butter was of equal value to a slice of bread. He did not like ordinary cereals, but he liked Pettijohn's breakfast food. He did not like milk but could take graham crackers and milk. Accordingly he was told to take butter and Pettijohn's daily, to take crackers and milk at 3.30 P.M. and before going to bed at night, to keep an accurate record of each day's food, and to report in a week.

At the end of the week his report showed he had followed the suggestions given and had averaged 1800 calories daily. His gain was two pounds. Encouraged by this gain, the following week he averaged 2100 calories, and gained two pounds more. The next week his average was 2180 calories and he gained three pounds, seven pounds in three weeks. At this visit he remarked "It does not matter what I take, does it, if I take enough." He said the day previous he found at night he had taken only 1500 calories, so he sat down and ate seven large figs, which raised his total to 2200. No indigestion resulted. The following week he kept no record, saying he just ate all he could and let it go at that. There was no gain in weight. The next week he did the same with no gain resulting. He then resumed keeping his record, which showed nearly 2200 calories. His gain was one and one-half pounds, making a total of eight and one-half pounds in the four weeks in which he kept his record of measured food, or an average of over a quarter of a pound per day. This boy took very little milk and no cream during this time, but was fond of nuts and figs. His average gain is what should be expected in a healthy boy. No change was made during this time in his occupation or habits. If he had not gained on 2200 calories it would have been strong evidence that he

had some organic disease, possibly some mechanical obstruction to respiration, or that he was suffering from toxic absorption, possibly from tubercular glands, or from diseased tonsils That is, the failure of a child to gain on a measured diet of 2000 or more calories per day is a valuable point in diagnosis.

The preliminary record is of importance in this method of feeding. First, it shows how much food is habitually taken; second, it shows the kind taken; third, and more important still, it shows what the child likes and dislikes making it possible to retain such foods in the diet as are agreeable to the child, simply substituting others for those that should not be taken, thus working along lines of least resistance, a most important factor in successful feeding. In the case of delicate girls, likes and dislikes, aversion to form, taste or smell, or associations of certain foods with unpleasant events, may be almost insurmountable obstacles in securing proper nutrition. Their appetites are fickle, leading them to live almost wholly on carbo-hydrate food, the proteid being far too low for proper growth. Cause and effect form a vicious cycle often made evident by this simple preliminary list.

The 48-hour record may also show mistaken ideas of parents as regards feeding. They frequently exhibit a certain pride in thinking that what does not agree with them will not agree with their children. Mistaken ideas of food values may lead to the total exclusion from the diet of many important articles of food.

During the past year a girl of fifteen came under my care because she was undersized and delicate. For ten years she had taken almost daily a large order of clear soup, the stock of which was made from the most expensive cuts of meat, the father thinking it especially nutritious. After taking a serving of such soup she ate very little else, so that her 24-hour ration was lessened by an appreciable amount. Neither parent nor physician seemed to realize that it requires nearly a quart of such soup to yield 100 calories.

Having from this 48-hour record a knowledge of the kind of food taken and its amount, it is an easy matter to increase or decrease the 24-hour intake by simple changes. For example, a girl of nine was twenty-pounds under weight. Her 24-hour amount before any suggestions were made to her about her diet was 1400 calories. Her breakfast consisted of four tablespoonfuls of cream of wheat, two teaspoonfuls of sugar, two soft boiled eggs, one roll, one-half pat of butter, and one cup of tea, making a total of 550 calories. (See table I.)

TABLE I.

		Cal.
Cream of wheat	4 tbsp.	100
Sugar	2 teasp.	50
Eggs (soft boiled)	2	200
Roll	1	100
Butter	½ pat.	50
Tea (milk and sugar)	1 cup	50—550

By adding cream to the cereal and by having the eggs scrambled, which allowed more cream and also butter, 250 calories were added to the breakfast. By substituting a cup of cocoa instead of the tea 200 calories more were added, together practically doubling the food value of the meal. (See table II.)

TABLE II.

		Cal.
Cream of wheat	4 tbsp.	100
Cream (16%)	2 oz.	100
Sugar	2 teasp.	50
Eggs (scrambled)	2	
cream 1 oz., butter	1 pat	350
Toast	1 slice	100
Butter	½ pat.	50
Cocoa	6% oz.	250—1000

Similar changes were readily made in the other meals, thus raising the 24-hour amount to above 2500 calories, an amount necessary to cause the child to gain from one to two pounds a week.

Such changes do not force the child to take too much food at any one meal, and, therefore, there is little danger of causing indigestion. In fact, in following delicate children with measured feeding I have seen no case of indigestion result. Children under weight seem to have a remarkable ability to digest food, taking as high as 3500 calories without digestive disturbances. While on the other hand, in the case of children who are overweight, symptoms of indigestion disappear in a remarkable manner with a diminution of the day's ration.

Measured feeding shows almost invariably that a child without organic disease is underweight because he does not eat enough and overweight because he eats too much. It is a far too common occurrence to find children taking tonics, transported to different climates, given all kinds of treatment, to make them gain in weight, when a measurement of their food shows they are taking from 1000 to 1400 calories daily, an amount too small for them to possibly gain unless actually confined to bed.

In health the question of a proper proportion of protein, fat and carbo-hydrates, namely that of a balanced diet, needs attention only in a general way, as taste regulates this in most instances. For example, bread which represents protein and carbo-hydrate, requires butter (fat) to make it palatable. Meat, composed of fat and protein, requires potato (carbo-hydrate) to please the taste. So the combination of bread and butter, meat and potato, bread and milk, represent physiological needs that taste recognizes and controls.

TABLE III.

		P.	F.	C.H.	Cal.
Cream of wheat	4 tbsp.	12	3	85	100
Cream	2 oz.	7	84	9	100
Sugar	2 teasp.	0	0	50	50
Eggs (scrambled)	2 tbsp.	68	278	4	350
Dry toast	1 slice	13	6	81	100
Butter	½ pat.	0	50	0	50
Cocoa	1 cup	34	128	88	250
Total calories		134	549	317	1000
Total grams		33	59	78	

In cases of nephritis, diabetes and duodenitis with jaundice, measured feeding applies to the different elements of food equally well as to the total quantity taken.

CONCLUSIONS.

The diet of all improperly nourished children and occasionally of well nourished children should be checked up and controlled by measured feeding.

A preliminary 48-hour list, kept without any suggestions from the physician, shows the quantity and kind of food habitually taken as well as the likes and dislikes of the child.

Changes in diet should be made gradually along lines of least resistance.

Cooperation of both child and parent is necessary for successful feeding. Both should be disabused of ideas and prejudices which interfere with proper nourishment.

The average gain on diet alone of children who are under weight should be from one-half to two pounds per week. If no gain is made, organic disturbances or toxic absorption should be suspected.

Serious errors in diet cannot be detected by asking the child about his appetite or the mother about the diet given. Food must be recorded and measured in order to show how much is taken.

Almost invariably the overweight child is overweight because he eats too much, and the underweight child is underweight because he eats too little.

Measured feeding is an important therapeutic test.

This exhibit shows about sixty common foods of the same nutritive value (100 calories). The labels have 100 small squares marked on them and the proportion of proteid, fat and carbohydrate is shown in colors, protein red, fat yellow and carbo-hydrate blue.

Liquid foods, as beef juice, orange juice, consommé, milk modifications, cream, etc., are put in bottles and preservatives added. Soap is used to represent butter and cheese. Meat and fish are represented by clay models. Artificial fruits were obtained in many instances of the proper size at shops where they are sold as favors. Dry foods, as shredded wheat and crackers, require no substitutes.

By studying the exhibit it is readily possible to visualize the amount of each food necessary to make 100 calories. For example, it requires nearly one quart of consommé or one whole bunch of celery or five ounces of milk to equal in value one pat of butter or one egg or the meat in an ordinary lamb chop.

On the right side of the upper table are three sets of graduates. The left set shows the amount of protein (60 grams) fat (40 grams) carbo-

FOOD EXHIBIT.

hydrate (250 grams) required in 24 hours by the average child six to ten years old (Koenig). The middle set shows the amounts required by an adult woman (Koenig). The right hand set shows the amount of protein (160 grams) fat (125 grams) carbo-hydrate (550 grams) taken by a child of nine years, a member of my feeding class, who was under weight twenty pounds but gaining rapidly, the total being more than double the amount taken by the adult woman.

Table I shows the breakfast of a girl aged nine before any suggestions were made as regards her diet. Table II shows breakfast modified by suggestions made to increase its caloric value. Table III shows the number of grams of proteid, fat and carbo-hydrate taken with each article of food. Table IV shows first part of a simple list of food (in preparation) to be used for practical reference in computing 24-hour amounts.

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List of foods shown in exhibit giving weight of 100 calories of each in grams and ounces; also showing the calories in each represented by proteid, fat and carbohydrate.

	Weight.		Calories.			Total.
	Grms.	Oz.	P.	F.	C. H.	Cal.
FRUIT.						
Orange, one very large	270	9.4	6	3	91	100
Apple, one large	206	7	2	6	92	100
Pear, one large	173	5.4	4	7	89	100
Banana, one large	100	3.5	5	5	90	100
CEREALS.						
Bread, white or brown, full slice	38	1.3	12	16	72	100
Rolls, French or Vienna, one	35	1.2	12	7	81	100
Zwieback, 3 slices	23	.9	9	21	70	100
Crackers, Uneeda Biscuit, four	24	.9	9	20	71	100
Crackers, Graham, three	23	.8	9	20	71	100
Force, 6 tablespoonfuls	30	1.1	10	3	87	100
Shredded wheat, one	27	.9	13	5	82	100
Grape nuts, 3 tablespoonfuls	27	9.6	13	2	85	100
Cream of wheat, 4 tablespoonfuls	156	6	12	3	85	100
Macaroni, 4 tablespoonfuls	110	3.8	14	15	71	100
Wheat or barley flour	27	1	12	3	85	100
MEAT.						
Lamb chop, edible part	50	.96	24	76	0	100
Steak, tenderloin, size chop	35	1.3	34	66	0	100
Roast lamb, size 2 chops	27	1.8	40	60	0	100
Bacon, one slice	15	.5	6	94	0	100
FISH (UNCOOKED).						
Cod, 2 x 2 x ¾ in.	105	3.5	90	3	7	100
Blue fish, 2 x 2 x ½ in.	68	2.3	71	29	0	100
Halibut, 3 x 1½ x ¾ in.	83	3	70	30	0	100
EGGS.						
Yolk, 1½ yolks	27	.75	17	83	0	100
White, 7 eggs	181	6.25	100	0	0	100
Egg, whole, one	59	2.1	32	68	0	100
VEGETABLES.						
Potato, one large	86	3	11	1	88	100
Corn, one ear	100	3.5	13	10	77	100
Peas, canned	178	6.3	24	4	72	100
Cabbage, uncooked	310	11	20	18	72	100
Celery, 1 bunch	540	19	24	5	71	100
Tomatoes, 4 medium	430	15	15	16	69	100
Succotash, 4 tablespoonfuls	100	3.5	15	9	76	100
Lima beans, 4 tablespoonfuls	126	4.4	21	4	75	100
String beans, 8 tablespoonfuls	480	16.5	15	48	37	100
DAIRY PRODUCTS.						
Butter, 1 pat	13	.44	1	99	0	100
Cheese, American, 1½ cu. in.	22	.7	25	73	2	100
Milk, cows,' average (3.50 : 4 : 4.50)	140	5.	20	52	28	100
Skim milk, (3.60 : 1.80 : 4.50)	200	7.	30	33	37	100
Butter-milk, (3.60 : 0.50 : 4.06)	278	9.	41	13	46	100
Top milk, 7%, (3.50 : 7 : 4.50)	102	3.75	15	66	19	100
Milk modified, (1.25 : 2.50 : 6.50)	181	6.33	10	42	48	100
Cream, 16% (3.25 : 16 : 4.05)	56	2.	7	84	9	100

LIQUIDS						
Consomme	830	29	84	0	16	100
Whey	285	10	11	25	64	100
Orange juice	188	7	0	0	100	100
Beef juice (warm process)	150	5.3	78	22	0	100
Cocoa	81	2.9	13	52	35	100
MISCELLANEOUS						
Olive oil	11	.5	0	100	0	100
Olives, seven	32	1.1	1	84	15	100
Prunes, three	32	1.14	3	0	97	100
Dates, three	28	1.1	2	7	91	100
Fig, one medium	31	1.1	5	0	95	100
Almonds, eight	15	.5	13	77	10	100
Peanuts, 13 double	18	.6	20	63	17	100
Marmalade, 1 tablespoonful	28	1	1	2	97	100
Sugar, milk	25	.9	0	0	100	100
Sugar, granulated	24	.86	0	0	100	100
Macaroons two	23	.8	6	32	62	100
Lady fingers, 1½	27	.95	10	12	78	100
Strawberry shortcake, av portion	100	3.5	20	110	220	350
Chocolate eclair	60	2	12	100	188	250
Charlotte russe, one	60	2	10	80	160	250
Cranberry pie, small	252	8	32	228	440	700

LEPROSY. SOME NOTES ON SYMPTOMS.

BY JAMES A. HONEIJ, M.D., PENIKESE, MASS.,

Penikese Island Hospital.

THE study of leprosy has been so largely devoted to the bacteriology and pathology of the disease that the many clinical aspects presented have not been emphasized. The disease has many interesting manifestations that should be studied and recorded, until such time as definite conclusions may be reached.

From practically no early symptoms, or symptoms that are indefinite and vague, the gradual progress of the disease carries with it a variety of symptoms, subjective and objective, to the final stages of the disease which are indeed complex. After the disease is definite, in both the tubercular and anesthetic types of leprosy, almost every new lesion is accompanied with some systemic disturbance. The more frequent the lesion the greater the upset to the patient, and the severer the lesion the more distressing and serious are the accompanying symptoms.

Observations made here on fifteen patients hardly warrant authoritative statements at this time, but these notes are presented for whatever value or interest they may have.

Stages of the disease can hardly be spoken of, unless it means the merging of one type into another. The disease is in the beginning insidious, and later so progressive that any attempt to define stages must necessarily be purely fictitious. So-called physiological disturbances such as headache, constipation and minor ailments, may often be viewed as part of the disease, but are not, necessarily, unless they are regular in onset or similar in most of the cases. The isolation and depressing surroundings may be responsible for the many temperamental attacks, so common among the patients here. Lack of exercise, mental torpor, national idosyncrasies and other real, or imaginary, conditions may all affect the patient. Consequently it is necessary to be careful not to assume that certain symptoms or mental states are part of the disease.

Lesions. The theory has been advanced and somewhat substantiated, that the original lesion is on the nasal mucous membrane in the form of an ulcer. The examination of every patient, with the exception of one anesthetic type case, showed ulceration or thickening of the nasal mucous membrane, some but slightly, but the majority extensively affected. The symptoms present and complained of were, difficulty in breathing through the nose, some irritation and occasional pains, discomfort during the sleeping hours and the resulting dryness of the throat.

Ulcers with a pus or watery serous discharge are, of course, the common lot of all lepers, with the exception usually of the anesthetic cases. These ulcers vary in size, are painful only in the beginning, but later may be almost entirely anesthetic, with a surrounding ring of one-half inch or more, also anesthetic and sometimes pigmented. Often and usually before the appearance of an ulcer or ulceration on the feet or hands, there is a preceding swelling accompanied with severe pain, elevation of temperature even up to 104°, rapid pulse, headache, nausea, vomiting and true chills. As soon as the swelling has become strictly localized, and an ulcer results with free discharge, the symptoms disappear, leaving the patient for several days in a depressed, weakened condition. Areas of ulceration may be in a finger, a hand, or extend from the knee to the foot and include both feet. When healing in such cases takes place, the skin is enormously indurated and largely anesthetic. The symptoms are severer in these cases than in the case of the occurrence of a

single ulcer. Alternate swelling and ulceration produce disfigurement and deformities; when the fingers are affected the finger nails become thickened, later on undergo softening, and ultimately result in the loss of the finger tips. Tremendous enlargement of the hands, forearms, ankles, feet and parts of the face are common features in the typical cases of tubercular leprosy. Constant inflammation of the skin results in its becoming thickened, forming ridges, folds and nodules, so that the features of the face become entirely changed. Such changes are gradual and slow and are accompanied by practically no pain or other symptoms.

The softening and breaking down of nodules or small swellings is fairly common. These are often slightly painful due probably to pressure and to some extent, to the involvement of the nerves. In the pus and discharges the acid fast bacillus of leprosy and a micrococcus are always found. Without being visible to the eye there may be numerous small nodules or infiltrations underlying the skin, which are only discovered when the hand is firmly stroked along the parts.

Bullae or blebs may occur naturally in the course of the disease or may be induced by friction or injury to the skin, as by scrubbing or washing. These have occurred only on the hands and feet. The bullae vary in size from a dime to areas covering the whole surface of a finger, are considerably elevated and filled with a clear amber colored fluid, which contains both the leprosy bacillus and a micrococcus. These bullae have occurred only in the tubercular type of cases; they occur rapidly and may last several days, leaving an inflamed, watery surface, which is usually easily amenable to treatment. An eruption occurs at irregular intervals over the back, shoulders and chest, similar to the rash that accompanies digestive disturbances, and not unlike that of ivy poisoning. It usually lasts the better part of a week, and is accompanied by true chills in most cases, elevation of temperature and pulse, malaise, vague pains, headache and depression. This phenomena has been alluded to as a malarial condition, but in truth does not in any way resemble typical malarial fever attacks. An examination of the blood does not reveal the malarial parasite or bodies analogous to them.

In the nature of an eruption are the occurrences of pustules containing both the leprosy bacillus and a micrococcus. These pustules may occur singly and later form an ulcer, may coalesce, or may occur in crops, develop, break down and heal, leaving slightly pigmented spots as a result. In two cases this occurred all over the limbs, upper and lower, and continued for nearly two months. The attack was accompanied by fever and some pain, and resulted in numerous pigmented areas. In both the tubercular and anesthetic cases, small pigmented spots occur without apparently preceding open, active inflammation or ulceration. At or near the lesions, the skin may be excessively dry and scaly, or it may be moist and secretive, and is most typical on the hands, legs and feet.

In the nasal secretions, discharges from ulcers, fluid from bullae and in the pus from pustules, the acid fast bacilli of leprosy has been found.

Pain. This symptom varies so considerably in all patients that it is probably of little value. It differs in degree during certain phases of the disease and the patient's general health has much to do with it. The difficulty in ascertaining the degree of pain is increased by anesthetic and hyperesthetic areas. Neuralgia or so-called rheumatic pains of a very indefinite origin are common, excepting with the anesthetic cases. These pains are most frequently complained of at night time, severer in cold weather, of varied duration, and apparently not associated with other symptoms. Often during a febrile attack such neuralgia-like pains are present but are not to be confused with the same pains as stated above.

Localized pain with swelling and inflammation usually precedes an ulcerative process. It may be totally relieved when there is a free discharge and subsidence of the swelling, or it may lessen and be of longer duration. The pain is often so severe that sedatives and opiates have to be prescribed. The accompanying symptoms have already been mentioned.

Pain as a result of nerve involvement in leprosy, such as occurs with the optic nerve, will not be dealt with here. Pain, associated with all the signs of inflammation of the eyes and eye lids, is usually severe, the itching, burning and lacrymation being especially troublesome, and does not respond easily to treatment. The eyesight is affected only after a long time, when the inflammation and its after results, affect the deeper tissues of the eye. Headache, unless occurring with or during febrile attacks, are of so obscure an origin, that its analysis is useless.

Burning and itching are common complaints. Burning or warm sensations are usually so vaguely described and so indefinitely localized, that they may simply be mentioned here as a symptom commonly spoken of in leprosy. Itching and biting sensations are not rare and are usually referred to the back and abdomen; they are generally associated with a dry condition of the skin. The itching is readily relieved with salves or ointments, and consequently is probably not indicative of actual peripheral nerve involvement.

Sweating. It has been stated that sweating is a symptom common to leprosy, but from the cases studied here it has been impossible to determine it as such. The systemic disturbances are so marked in the advanced stages of the disease, when nervous symptoms, exhaustion, weakness and the anxiety of the patient are all present, that it is questionable indeed whether we should view sweating as a symptom of the disease. Sweating, as is well known, is concomi-

tant with chronic exhausting diseases, such as tuberculosis, and it is in all probability the same with leprosy. In leprosy sweating often follows the severe chills during the febrile attacks when the patient is certainly in a low physical condition.

Chills. The patient may at irregular intervals suffer from true chills, as has already been mentioned, and at such times as active inflammatory changes take place, and tissues break down, and ulcers occur. It is possible to consider such chills as the result of the softening and breaking down of nodules and other areas of infiltration and that the bacilli, or their toxic properties, are then set free and taken into the blood stream with the resulting disturbance. Chills with septic infection, typhoid and malaria, are of course well known, and the analogy here is not at all far drawn. These chills are often severe, with great systemic disturbance, the patient is prostrated, the temperature may rise three or four degrees or suddenly drop to subnormal, with the pulse essentially agreeing with the temperature. The chills last from a few minutes to the greater part of an hour, and may occur as often as four or five times in twenty-four hours; or again there may be a single chill, without recurrence for months.

Apart from the occurrence of true chills, chilliness is often a complaint, and more marked with the patients who are anemic. Chilliness may be complained of on the brightest and sunniest days and when the patient is free from all other symptoms and is not associated with digestive or intestinal troubles. The question of the blood picture during true chills will be dealt with in another note. In the anesthetic cases here, no chills or feeling of chilliness has been noticed, it being most noticeable in the far advanced tubercular leprosy patients.

NOTES AND CONCLUSIONS.

A. When the disease is advanced the patient's health varies daily; he feels exceptionally well one day and the next presents every symptom and appearance of a seriously sick person.

B. In comparison to the severe symptoms and general appearance of the patient, physical examination will reveal nothing. Lungs and abdomen are normal, and with the exception of a soft systolic murmur over the precordia, the heart is normal.

C. During eruption the skin is usually hot and dry.

D. Extreme mental depression at irregular intervals and nervousness are characteristic of every case.

E. Ulcers may heal rapidly and continually, or, as is seen in one or two cases, they become chronic and refuse to respond to treatment. Medicinal treatment varies in each case; in leprosy this fact is particulary accentuated.

F. The clinical symptoms of leprosy, although somewhat confused and often indefinite, are, nevertheless, correct symptoms of the disease and in the care and treatment of leprosy patients, are to be carefully observed and seriously considered. The consideration of the pulse, temperature and blood are so important and instructive, that a more careful study is being made and will, in all probability be reported in the future.

In conclusion I wish to thank Dr. Frank H. Parker, superintendent Penikese Island Hospital, for his kindly advice and criticism in the preparation of this paper.

INSTITUTIONAL DENTISTRY: METHODS: RESULTS. REPORT NO. 2.

BY FREDERICK A. KEYES, D.M.D., BOSTON.

IN the issue of the BOSTON MEDICAL AND SURGICAL JOURNAL of July 25, 1912, there was printed an article entitled "Institution Dentistry: Methods; Results," in which I submitted to the medical profession a report of dental work done at St. Vincent's Orphan Asylum, Boston, and its relation to the infectious diseases of childhood. This statistical report, showing the great decrease of infectious diseases at the orphanage after the establishment of a dental infirmary, amazed even the most enthusiastic propagators of oral hygiene.

Owing to the frequent inquiries regarding the progress of the work since the publication of this article and the many urgent requests for further information, I have deemed it expedient to submit the following report of the last 18 months' work.

The number of children at the Asylum January 1 1912.....	227
Children received during the year	76
Children cared for by the Home during the year.....	303
Children taken out by relatives...	121
Children in Asylum Jan. 1, 1913..	182

The system of dental work remains the same. The inspection of the children monthly to see that they are keeping their mouths clean and the admonition of the few that are negligent in this respect has been rigidly observed. The tooth brush brigades, led by the older girls, are accomplishing the desired results, *i.e.* teaching the younger children how and when to brush their teeth, so that the habit thus formed in childhood may continue throughout life. A nitrous oxide oxygen apparatus has been installed and found to be a most valuable, though expensive, adjunct in the elimination of pain.

The following statistics contain the record of work done for the past 18 months. For those who have not read the first article, statistics for the first 18 months are included,—with a partial account of the money expended for materials necessary during that period:

	Nov., '10 to May, '12	May, '12 to Nov. '13
Total number of different patients examined	349	303
Total number of cleanings	272	350
Total number of cement fillings	25	45
Total number of amalgam fillings	72	76
Total number of cement amalgam fillings	69	60
Total number of temporary fillings	130	180
Total number of oxphas cu. fillings	9	57
Total number of teeth extracted (temporary)	290	102
Total number of teeth extracted (permanent)	131	51
Total number of abscesses opened	42	21
Total number of gums cut for permanent teeth	19	9
Total number of plastic operations	3	0
Total number examined and treated	1421	1254
Total number of fillings (including temporary)	315	418
Total number of teeth extracted (including temporary)	421	153
Total time spent (hours)	210	190

Account of Expenses.

Initial cost (chair, engine sterilizers, brushes, etc.)	$125.00	
Supplies for 18 months	66.63	
Nitrous oxide oxygen apparatus (initial cost)		$86.15
Supplies for 18 months, including gas and oxygen		75.00
Totals	$191.63	$161.15

A study of the above tables will show the great number of teeth filled and the few extractions necessary in the last 18 months in comparison with the preceding 18 months. It is hoped that, after all cavities in the mouths of the permanent inmates of the Asylum are filled, the future work will be solely prophylactic treatment (cleaning). But every year there is an influx and exit of from 75 to 100 new children. Therefore, extraction and filling will necessarily be the first important factor. After filling and extraction are completed, the cleaning of the teeth every three months by the dentist and daily by the patient is expected to prevent future caries in the children's mouths. Contrary to the usual routine, dental repair work is done on the older girls in preference to the younger ones, since the older girls are liable to leave the Asylum first and it is our desire to send them out into the world with mouths free from all carious cavities. Odontalgia has been practically eliminated.

Below is printed a table containing the number of infectious diseases occurring at the Home in the last 36 months, together with statistics of previous years.

RECORD IN REGARD TO INFECTIOUS DISEASES.

	1907 1908	1908 1909	1909 Nov., 1910	Nov., 1910 Apr., 1911	Apr., 1911 May, 1912	May, 1912 May, 1913	May, 1913 Nov., 1913
Diphtheria	6	2	1	0	0	0	1
Mumps	8	3	10	4	0	0	0
Scarlet fever	17	8	12	8	0	0	0
Pneumonia	3	5	4	6	0	0	0
Measles	24	50	40	25	0	0	6
Tonsillitis	19	16	8	3	0	0	0
Whooping cough	7	2	2	0	0	0	0
Chicken pox	15	17	10	6	0	0	0
Typhoid	0	0	0	0	0	0	0
Croup	4	0	0	0	0	0	0
Spinal meningitis	0	0	0	0	0	0	0
Scarlatina					0	0	0
Bright's (acute)						0	0
Hemorrhage							0
Tuberculosis of eye					1		
Tuberculosis of lungs					1		
	103	103	87	52	2	0	7

From the above data it may be seen that in the last 36 months only 7 cases of infectious diseases have occurred at the Asylum. Of these 6 were measles, one of which was contracted before or immediately after admittance to the Home. The disease spread to 5 children, permanent inmates of the Asylum. The mouths of all six patients were carefully examined and found to be in need of dental treatment. Whereas in previous years 40-50 children were stricken down with measles this year only 5 children contracted the disease. The one case of diphtheria also occurred in a new girl. Examination of her mouth showed great need of dental work.

What is the cause of this elimination of disease from St. Vincent's Orphanage immediately after the beginning of dental work and the continuing of this immunity for a period of three years? Dentists need no longer claim to be great prophylactic agents in the field of medicine; for the above statistics demonstrate convincingly the immunity acquired from infectious diseases of childhood after the proper treatment of the child's oral cavity.

For many years dentists have spent much time and effort in compiling and presenting statistics showing the relation existing between carious teeth and infectious diseases of childhood. In many large cities these efforts are bearing fruit. It is, however, hard to understand why there should be so much delay in some parts of this country, especially in Boston, in meeting this problem. At present there exist in other municipalities many methods of handling the public school question, most of which are still in the experimental stage but are nevertheless accomplishing a great deal of good. In Boston, however, the dental question is most unsettled. Spasmodic attempts, most of them theoretical, to remedy this defect in the past have been unsuccessful. At present, even with the new Forsyth Dental Infirmary, the results predicted will be merely scraping the surface. The

Forsyth Dental Infirmary in full working order will be able to handle only a part of the carious cavities now existing in the mouths of the Boston public school children. The good that is to be obtained from this great philanthropy cannot be over-estimated; but without the co-operation of the City of Boston and the medical profession the desired results will fall short.

Establishment of school dental clinics working harmoniously with the Forsyth Dental Infirmary, to my mind, is essential in handling the 100,000 children in the Boston public schools. The 64 chairs at the Forsyth Institute are inadequate to meet the needs of the public school children.

Paid dental inspectors should be appointed by the City after competitive examinations similar to those now in vogue for the school physicians. To permit school nurses to act in the capacity of dental inspectors is indeed a sad commentary upon the importance of this great field of medical science. Nurses are no more competent to judge between dental conditions needing immediate care than they would be in diagnosing adenoid or tonsillar diseases.

Paid dental inspectors are necessary to handle the public school question. Even though the time has not yet come when school dental infirmaries are to be established necessitating dental inspectors in the public schools, even now under the present conditions the Forsyth Institute is in dire need of inspectors in the schools to send them cases needing immediate treatment.

Dentists are very apt in their over enthusiasm upon this subject to momentarily offer their services free to the municipalities. But no work of any great value requiring all a man's working hours was ever well and properly done without monetary compensation.

Progress in school dentistry must come. Further agitation should not be necessary. Physicians should co-operate with dentists and school authorities to demand that steps be taken to eliminate the present conditions existing in the mouths of the public school children.

A FURTHER REPORT ON THE MAYO-GILLIAM OPERATION FOR RETROVERSION OF THE UTERUS.

BY HAROLD W. BAKER, M.D., BOSTON,

Surgeon to Out-Patients, Free Hosiptal for Women, Brookline, Mass.

As pointed out in a previous paper,[1] the best method for the treatment of retroversion of the uterus, is the operative treatment, wherein the Mayo modification of the Gilliam technique is used. The steps of this operation have been gone over in the previous paper, and we do not need to refer to them again.

The three classes of operations performed by the best authorities for retroversion, may well be described here with their results. They are:—

1. Hysterorrhaphy, which may be divided into two classes, namely
   a. Suspension.
   b. Fixation.
2. Intraperitoneal shortening of the round ligaments.
3. Extraperitoneal shortening of the round ligaments.

By suspension, we mean the mere suturing of the uterus to the peritoneum. This method has proved by long and extensive use to have too many recurrences to justify the continuance of this attempt to cure. This fact was shown in the first paper[1].

By fixation, we mean the suturing of the uterus to the abdominal fascia. This procedure, on the other hand, has demonstrated that it actually does accomplish the purpose for which it is done. The objection to fixation is not failure to do what it purports to do, but that complications from it[6] are too serious and numerous to warrant doing it during the child-bearing period. There is a fault common to both suspension and fixation, in that they are not anatomically justified, for the uterus is normally a movable organ, and they both attempt to immobilize the uterus.

We believe that the intraperitoneal shortening of the round ligaments, as done by Baldy[4], Webster,[7] Coffey[3], and others, is giving much better results than it did five to ten years ago, when we saw a recurrence in thirty-one out of thirty-five cases[1]. We object to this procedure, however, as it utilizes the weakest part of the ligaments to do the heaviest part of the work. The chance for recurrence is still very great.

The extraperitoneal shortening of the round ligaments, the Alexander type of shortening[2], is good, but it has a moderately high percentage of failure. The reason for this percentage[1], is due in all probability to the fact that adhesions of the uterus are not easily recognized even when the patient is fully anaesthetized. The operation utilizes the strongest part of the ligaments, and it does not interfere with the normal motility of the organ. There is one distinct disadvantage to this operation, and that is that the surgeon is unable to examine the other abdominal organs.

We have begun to emigrate from the old idea that the best surgeon is the one who makes the smallest incision, and who does the least exploring. The patient is apt to embarrass her surgeon, a year or two later, if she comes back to him (or to another), with other abdominal trouble which might have been found and relieved by abdominal exploration at the time of the former operation. We prefer to know that the abdomen is completely negative, rather than to go on any assumption. The knowing adds nothing to the risk of the operation, and it adds much to the mental comfort of the patient, and

incidentally of her surgeon. We discard the idea that because a patient has one apparent trouble, she may not have another less apparent one.

The Mayo- modification of the Gilliam operation[5] for retroversion, comes nearest of all methods, to restoring the uterus and its supports to their anatomically normal position. It does this, moreover, by utilizing the strongest part of the round ligaments. It also permits the free exploration of the abdomen. At the present time, from personal knowledge of the conditions of the pelvis of all the cases cited both in this paper and in the previous one,[1] we believe that the after results of this technique are as good if not better than those of other operative procedures. These cases are taken from the clinic of The Free Hospital for Women, Brookline, Massachusetts, and from private practice. In support of our beliefs, we desire to submit the following table of cases, dividing the cases into groups of six months each, as regards the elapsed time since operation.

TABLE OF RESULTS FOLLOWING THE MAYO-GILLIAM OPERATION FOR RETROVERSION.

No. Mos.	No. Ops.	Children.	Pregnancies.	Recurrences.
0-6	25	0	0	1
7-12	24	0	0	0
13-18	28	0	0	0
19-24	11	1	1	0
25-30	16	3	3	0
31-36	21	1	1	0
37-42	6	0	0	0
43-48	13	3	3	0
49-54	3	0	0	0
55-60	21	2	2	0
61-66	2	2	2	0
67-72	1	0	0	0
Totals	171	12	12	1

A study of the table shows clearly that the uterus suffers no inconvenience on account of the Mayo-Gilliam operation. None of the women have had any further trouble referable to the uterus, and the ten who have had one or more pregnancies, have had perfectly normal labors in every way. Two of the women have each passed through two uneventful pregnancies, their labors presenting no abnormal features. Putting it in percentages, we find 7% of our cases have gone through pregnancy without any trouble, and as they all were free from complication of any kind, 100% of the pregnant cases had no trouble from the operation. We have had only one half of one percent of recurrence. This one recurrence is easily understood, as the patient developed the retroversion about three months after operation, and we believe that it was due to a cutting out of the suture material used. Later, she was again subjected to a laparotomy for another trouble, and a second Mayo-Gilliam performed, and this time no recurrence took place.

In conclusion, we must, with these results before us, reaffirm our statement that the Mayo-Gilliam operation for retroversion has proved to be the best of any from anatomical, functional, and curative viewpoints.

We wish to thank Dr. Donald V. Baker for his kind assistance in the compiling of this paper.

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Clinical Department.

APPENDECTOMY IN A BLEEDER. BLOOD IN VOMITUS AND STOOLS. MASSIVE HEMATOMA AND ECCHYMOSIS. RECOVERY.*

BY TORR WAGNER HARMER, M.D., BOSTON.

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IN the early evening of August 11, 1913, I saw Mr. H——, a travelling salesman of 25.

Three days before he felt "logy" and after a hurried luncheon of crackers and cheese he experienced a sense of fulness and distention of the upper abdomen which persisted throughout the afternoon and evening but did not prevent sleep. The following morning he had pain in the epigastrium but no nausea or vomiting. In the afternoon the pain shifted to the lower abdomen and his head began to ache. Yesterday he felt feverish, and pain in head and lower abdomen persisted. In the evening a dose of salts was taken. This morning he felt better, headache had gone, only tenderness in right lower quadrant remained. This afternoon fever and pain in lower abdomen returned. There has been some nausea but no vomiting. The pain has become acute. Bowels had moved daily till today, movements painless and without blood. No difficulty with urine. No cough or pain in chest. He had never previously had any "indigestion." A year ago he was under my care for subdeltoid bursitis. One brother had been operated for appendicitis in the presence of peritonitis and had died.

A tall, spare youth with flushed cheeks, hot skin, dry lips, and tongue with slight white coat. Pupils equal and reacted equally to light. Heart and lungs showed nothing abnormal. Abdomen was flat, not distended, tympanitic throughout with much tenderness and spasm in right lower quadrant but no palpable mass. Liver, spleen, and kidneys not felt. No costovertebral tenderness. Lateral compression of lower costal cage not painful. No inguinal hernia. Genitals negative. Knee jerks equally active. No ankle clonus. No edema or jaundice. Questionable tenderness by rectum high on right. Temperature 101. Pulse 100. White count 16,000. Urine, high

* Reported before Surgical Fortnightly Club, Nov. 25, 1913.

color, clear, acid, sp. gr. 1022, slightest possible trace of albumin, no sugar. Abdominal pain was relieved by lying down with right leg drawn up.

A diagnosis of acute appendicitis was made and two hours later he was on an operating table under ether (preceded by nitrous oxide) with pin-point hemorrhages over the freshly shaved pubes. My assistant's apology was dismissed with pleasantry about hospital razors. A 3½-inch incision was made over the right rectus muscle midway between umbilicus and pubes. The anterior sheath of the rectus cut, the muscle bluntly divided longitudinally, and the deep epigastric picked up either side of the wound, cut, and double tied. The wound was a pool of blood. A number of vessels were picked up but as the ooze seemed general a sponge was laid against either side of the wound and held by retractors. The peritoneum was opened without incident. The appendix was felt behind the cecum. The cecum was raised. Although the manoeuvre was gentle, a patch of hemorrhage immediately developed in the wall of the cecum and tongues of blood spread peripherally apparently just beneath the serosa. A short, swollen, injected, unruptured appendix was delivered rather readily, after breaking a few fine, fresh adhesions and snapping and cutting an old band. The meso-appendix was clamped and cut in sections from tip to base. The right quadrant was then filled with blood. This was sopped out, the appendix tied off, cut, and the stump touched with carbolic acid and alcohol. The clamped portions of meso-appendix were tied off. Still the mesentery-line oozed smartly. Several extra ties and a couple of interrupted sutures checked but did not stop the ooze. The abdomen was closed tightly in layers, the peritoneum continuously, the fascia and skin interruptedly. A few through-and-through sutures down to the peritoneum had been placed. It was necessary to sponge continually while closing the belly wall. Everything bled. Every stitch hole was a new bleeding point. Anticipating a hematoma in the wound, several folded-pieces of gauze were placed over it and held snugly against it with tightly-placed adhesive straps. A large pad and firm binder completed the dressing. Although considerable blood was lost, the character of the pulse was always fair, never alarming.

To keep blood pressure down he was given no fluids during the night and two small doses of morphine to combat restlessness. The improvement was remarkable. The next morning (8 A.M.) the pulse was 68 and of good quality. Liquids without milk were started; 33 ounces were given up to midnight, he had two stools after an enema, and voided 18 ounces. At 2 P.M. he vomited 2 ounces of very dark brown liquid, very similar to the vomitus of peritonitis. Vomiting of similar character occurred at 4.30 P.M. 12 ounces, and the next day 4.45 A.M., 7 ounces, 12.30 P.M. 16 ounces, 5.30 P.M. not measured. The stools were all of old blood and occurred as follows: August 12, 4.30 and 5.00 A.M. after enema, 12.15 P.M. voluntary, 4.45 P.M. after enema, 6.45 P.M. voluntary, 9 P.M. voluntary; August 13, 3.30 A.M. after rectal tube. The temperature rose to 102 and pulse to 90 August 12, 4 P.M. Removal of the dressing revealed the incision elevated on a rounded prominence about 5 inches long and 2½ inches wide of purplish blue color and of firm consistency, evidently a massive hematoma. Extending from this to edges of the pad was a paler ecchymotic field. At the edges and just beyond the edges of the pad the ecchymosis was more intense. Extending from this field were strips of ecchymosis marking the edges of the adhesive straps. These extended well into the flanks. Beneath the straps there was no discoloration. The abdomen was soft, tympanitic, and peristalsis was evident by auscultation. Another examination of the urine was negative (slightly high color, clear, acid, no albumin, no sugar). The vomiting was always of the expulsive rather than the overflow type. For 24 hours he was denied anything by mouth, given 8 ounces of salt solution by rectum every 4 hours and morphine subcutaneously to keep quiet. Vomiting promptly ceased. For eighteen hours longer the rectal salt was continued with the addition of 3ii soda bicarbonate and 3 ounces of water with 3i of soda bicarbonate was given by mouth every 2 hours to combat the acidosis which might well occur after practically 3½ days of starvation. The soda and enemata were then omitted and soft solid diet immediately instituted. Convalescence was henceforth uneventful. The ecchymosis gradually worked down onto the penis, and became general over the abdomen, and then began to fade. From the discovery of the hematoma the wound was covered daily with alcohol dressings. The stitches were removed on the seventh day and the hematoma, then much reduced in size, evacuated through a director thrust. The wound stayed clean, oozed serum for several days, and closed. He was up and about the room on the twelfth day and discharged to his home on the fourteenth day. I saw him one month later (Sept. 20). He was looking and feeling well. The wound was strong and solid and the ecchymosis only very faintly evident. Seen again on October 12 in perfect health. Reported by telephone November 30 that he was in excellent condition.

Just before his discharge from the hospital I obtained the following history which I had failed to obtain before operating.

About three or four years ago had two or three teeth extracted. Bleeding continued for three days although he made several trips a day to the dentist who used various astringents and packings.

Two years ago he fell on the ice, striking his hand and splitting open the tip of one of his fingers about one-quarter inch. This bled for two days despite bandaging and stopped only after suturing.

Whenever he cuts himself shaving, he bleeds much more than most people, he thinks, and it may even keep him from attending his business.

In his family history I find no bleeders. Father, mother, two brothers, and one sister are living and well. One brother died at 22 of peritonitis following appendicitis. One brother died at 11 months of some spinal trouble.

Reviewing the events of the convalescence we do not find the picture of peritonitis or intestinal obstruction, certainly not of acute dilatation. Although the appearance of the vomitus was that of peritonitis it was always of expulsive character. Again the bowels moved spontaneously several times, gas was voluntarily passed and peristalsis was always evident by auscultation. Again the belly was comparatively soft. It was certainly not spastic, even about the wound. True, the temperature and pulse rose (temperature 102, pulse 90) but came down to 99 and 80 within 24 hours with general improvement. The expulsive character of the vomitus, the evidence of peristalsis by

auscultation and a few movements would not be inconsistent with obstruction. The number and bulk of the movements and lack of distention or tenseness of abdomen argue against this diagnosis. The evident explanation is as follows. Haemorrhage into bowels (appearance of stools and vomitus) and absorption of extravasated blood (rise of temperature and slight rise of pulse). At operation gentle traction of caecum to expose appendix caused haemorrhage into wall of caecum and probably from mucosa. Just before closing abdomen it was seen that there was no Lane's kink or Jackson's membrane. The pyloric end of the stomach, the duodenum and the gall bladder were felt and were apparently normal. This added manipulation, although usually not appreciably harmful, may have amounted to trauma in this case. Although there may have formed a hematoma in the region of the caecum, it seems unlikely that the rise of temperature was due to its infection, although readily possible in the bed of an appendix subject to only catarrhal inflammation; for the temperature dropped within 12 hours to 99 and rose only once again to 100.

I am led to place this case on record for two reasons.

First: As a reminder of this as a serious surgical complication and as a reminder of what I believe very common negligence, failure to make inquiry about bleeding in obtaining the history, especially in acute conditions.

Second: On account of the unusual symptom complex: rise of temperature and pulse, vomitus of the appearance of that of peritonitis but expulsive in character, belly without spasm and comparatively soft, stools of old blood and some copious and voluntary, and massive hematoma and ecchymosis of abdominal wall.

Medical Progress.

PROGRESS IN OPHTHALMOLOGY.

BY EDMUND W. CLAP, M.D., BOSTON.

TUBERCLE OF THE CHORIOID.

Marple[1] has reported on tubercle of the chorioid in tuberculous meningitis. From 1908 to 1911 there were 128 cases seen by him, the percentage showing tubercle of the chorioid not exceeding 5%. Carpenter and Stephenson had found it in 50% of their cases. For the first six months of 1912 thirteen cases of tuberculous meningitis in children entered the hospital and were examined under atropine and with an electric ophthalmoscope several times a day, and in every case tubercles of the chorioid were found sooner or later. Cases negative one day would show them the next day, and even a case without them at one examination would show one or more four hours later. He found small miliary tubercles, round or oval in shape, rarely irregular, of a greyish or grey-white color, usually without any pigment, with a moth-eaten edge, and varying in size from the breadth of a primary retinal vessel to a mass the size of the optic papilla or larger. In the greater number of cases they are limited to one eye and usually not far from the optic disc. Papillitis was found in four out of nine cases, and in three of these it was double. The author has never seen any exudation on Descemet's membrane in cases of tubercle of the chorioid.

VAN LINT'S OPERATION.

Van Lint[2] has proposed a method of avoiding prolapse of the iris after cataract extraction, which has been more or less tried by other operators this year. Before making the incision the conjunctiva is detached corresponding to the upper half of the corneal limbus and dissected from the sclerotic upwards 8 or 10 mm. A silk suture is inserted into this loosened conjunctiva on each side and the lower end of each suture passed through the conjunctiva below the horizontal meridian of the cornea, so that when they are tied after the extraction, the detached conjunctival flap glides in front of the corneal wound and covers about the upper fourth of the cornea. After the regular extraction the sutures are tied and the threads cut off close to the knots. The conjunctiva gradually retracts and from the second to the fifth day it has receded from the cornea. This procedure does not lead to any nutritive change in the cornea nor to astigmatism.

SENILE CHANGES IN THE EYE.

Attias[3] has investigated senile changes found in the human eye. Most authors, including Parsons, attest the presence of fat in the arcus senilis, but Fuchs called it a hyaline degeneration, and Leber traced calcium salts in the arcus. Attias with modern methods has shown that neither hyaline substance nor lime salts are a possible cause of the opacity, and he also proves that the substance reacts in all respects like fat. The author found fat granules even in the corneal epithelium and in Bowman's membrane. The middle strata of the cornea are as a rule the last to be affected by the deposition of fat. In some cases even the endothelium of Descemet's membrane had fat droplets in the protoplasm. Vollaro has found fat in the anterior part of the sclera in old eyes. Takaysu has confirmed this. The iris of aged persons may show partial or complete disappearance of the pigment layer at the pupillary margin and the tissue here and behind the sphincter may change into a hyaline mass. The fibres of the ciliary muscle are much thinner than in young subjects. The interfibrillar tissue is increased in amount and may

show a little fat. The ciliary processes show much increase in connective tissue and this may assume a hyaline aspect. In true gerontoxon lentis the capsule of the lens is normal, but the peripheral fibres have vacuoles in and around their nuclei and finally large spaces form and numerous fat drops. The eye muscles show a greater variation in size of fibres than in youth and the nuclei are often rounded and irregular. Fat is found here, too. In the nerves of the anterior segment of the eye degenerated fibres are more abundant in age than in youth.

MICRO-ORGANISM OF PARINAUD'S CONJUNCTIVITIS.

Verhoeff[4] has described a filamentous organism which he believes is the cause of Parinaud's conjunctivitis. The disease has been thought to be of animal origin and infectious, though no specific micro-organism has been hitherto found. Verhoeff and Derby have shown that the lesions in Parinaud's disease are histologically characteristic. While some recent observers have contended for the tubercular origin of this disease, their cases did not show the typical histology and were probably cases of conjunctival tuberculosis. The author has examined twelve cases histologically. Each was monocular and showed conjunctival granulations with areas of cell necrosis and enlargement of the preauricular lymphatic gland. The characteristic feature is the occurrence of focal areas infiltrated with endothelial phagocytes in various stages of necrosis. These cells are not close packed but discreet. There is a relatively small proportion of lymphoid and plasma cells in the areas but almost no pus cells. These areas, .3 to .5 mm. in diameter, are usually just beneath the epithelium. Surrounding the areas of cell necrosis the tissue is densely infiltrated with plasma cells. These twelve cases clinically as well, were cases of Parinaud's disease. By the method of fixation and staining detailed by him the author has demonstrated in the areas of cell necrosis in sections and also in tissue scrapings a filamentous organism occurring in masses. A high power shows these masses composed of intertwined delicate, faintly staining, singly contoured filaments. At almost regular intervals along the filament round dots occur which stain intensely by the modified Gram method. These are never exactly centered in the axis of the filament but project beyond its surface. The dots are seldom all of one size on one filament. In tissue scrapings filaments 30 micra in length may be seen. In eleven out of twelve consecutive cases these were found and in the one case the material was insufficient. The absence of any other demonstrable micro-organisms, their unusual character, their great abundance and the fact that they were so situated as to explain the lesions make it reasonable to regard them as the cause of the disease. Since no branching of the filaments could be made out they may be classed for the present as a leptothrix.

VISUAL SYMPTOMS OF SINUS DISEASE.

Fridenberg[5] calls attention to the visual symptoms of accessory sinus disease. Many symptoms of progressive sinusitis are ocular or orbital. We have nerve irritation in the form of reflexes or from direct action of toxic substances, mechanical pressure of hyperemia. So we get lachrymation, clonic or tonic spasm of the lids, fleeting edema, transient conjunctival or scleral injection, miosis, and occasionally spasm of accommodation. We may have transient rise of intraocular tension, with prodromata, or an actual attack, of acute glaucoma disappearing promptly under treatment of the sinus. Fleeting pain of eyeball, brow or temple, or even severe pain of a hemicranic type may belong here. Accommodative, conjunctival, muscular or retinal asthenopia is not infrequently found in cases of long standing accessory sinus disease. In scintillating scotoma the sinus should be examined. Of course mechanical involvement of nerve, muscle or eyeball is well known. The sinuses should always be considered in retrobulbar neuritis, especially posterior ethmoid or sphenoid disease and the optic nerve involvement may be not only mechanical but a toxic one analogous to tobacco or lead. In a large series of cases of disease of the posterior sinuses Van der Hoeve[6] noted an invariable enlargement of the blind spot.

ANAPHYLAXIS IN OPHTHALMOLOGY.

Szily[7] treats of anaphylaxis in ophthalmology and says that experiments have been made in two directions. One group busies itself with the question of the antigen working of various tisues of the eyeball in general anaphylaxis. Another question of greater practical importance is whether it is possible to bring the entire organism into a state of anaphylaxis from the eye. It is possible with heterologous proteid, but doubtful if it can be done from an animal's own tissues. So far, anaphylaxis has been suggested as playing a part in two eye diseases, sympathetic ophthalmia and interstitial keratitis. Elschnig[9] in a series of studies explains the nature of sympathetic ophthalmia by assuming that in severe lesions of the eyeball or in severe spontaneous inflammations of the uveal tract, uveal pigment in antigen form is absorbed and brings about a sensitization of the entire organism to this antigen. Then there needs only a pathological process with even slight pigment changes in the other eye, and a local anaphylactic reaction ensues. The sensitization from absorption of antigen in the first eye acts not only on the uvea of the second eye but also on the retained uvea of the first eye and keeps up a continuation of the disease, which spreads through the uvea under the same pathological picture as in the second eye. Von Hippel has offered several grave objections to this view, however, but it affords grounds for interesting speculations.

Peters[8] refers to the occasional disturbance of hearing in sympathetic ophthalmia and the possibility that the normally present pigment in the labyrinth plays a rôle therein. He shows that the deafness, in some of these cases at least, is not due to meningitis. Szily quotes Wessely's experiments on rabbits, of injecting one or two drops of sterilized inactivated horse or steer serum into the parenchyma of the cornea near the upper limbus. Two different effects followed; usually there was no reaction and the eye remained free from irritation, or after twelve to fourteen days there was a clouding of the deeper layers of the cornea above and deep vascularization. This reached its height in fourteen days and disappeared completely. If one injected foreign serum into the other eye at the time of this attack the characteristic inflammation appeared in this second eye, too. Arisawa and Szily found that if after fourteen days the first cornea be injected again whether the reaction had occurred or not, within twenty-four hours a marked infiltration of the deep layers over the whole cornea followed with signs of iritis. A third series of experiments began with the injection into one cornea and fourteen days later 4 c.c. of the same serum was given intravenously, at once the pupil of the injected eye contracted and remained so for some minutes, and then within twenty-four hours a typical picture of interstitial keratitis developed. Fourthly, an intravenous or subcutaneous injection of the serum followed in two weeks by an injection into one cornea gave in twenty-four hours the characteristic reaction. After a theoretical discussion of these results the author concludes that anaphylactic processes are concerned in parenchymatous keratitis and that this may throw some light on its occurrence after trauma. Analogous types of reaction have been observed in injection of serum, lens albumen or uveal tissue into the vitreous. The author thinks that the adjustment to or increased sensitiveness to chemical poisons differs so entirely in its nature that it should not be considered an example of anaphylaxis. Anaphylaxis or immunity is due only to antigen bodies and has a symptom complex independent of the sort of injected antigen and too hypersensitiveness to toxin or poison cannot be transferred to a normal animal through the blood serum as can anaphylaxis.

CHRONIC UVEITIS.

Fuchs[10] has made a very important study of chronic uveitis, the pathology of which he has been working on for a number of years. This covers the cases not due to syphilis, tuberculosis or sympathetic inflammation. Chronic uveitis includes iritis, iridocyclitis and iridochorioiditis and not cases of acute attacks with many recurrences, but only the cases that begin without or almost without evidence of external inflammation and so run on for years and only perhaps in the late stages, if at all, are associated with marked external inflammation. The patient notices his disease first by disturbance of vision. Objectively these cases are marked by deposits on the cornea, posterior synechiae, opacities of the vitreous and often by changes in the chorioid. It is conceivable that agencies noxious to the uveal tract may attack now one part and now another and an inflammation of the chorioid may slowly involve the iris and vice versa. If we wish to use a more definite name than uveitis we must decide on what clinical grounds we may make such a distinction. With visible changes in the iris tissue or posterior synechiae we are justified in speaking of iritis; with foci in the chorioid, of chorioiditis. In the numerous cases with no visible change in the iris, but with precipitates on the cornea and perhaps opacities in the vitreous, called serous iritis, the name iritis does not seem clinically justified. Despite the close connection of iris and ciliary body, involvement of one without the other may occur. The author has four cases, anatomically investigated, in which the ciliary body remained free during long continued inflammation of the iris and these were by no means light cases of iritis, one having seclusio pupillae. The question whether cyclitis occurs without iritis is not to be answered exactly, though with dense precipitates on the cornea the iris may show a very slight infiltration anatomically and none clinically. In the author's opinion chronic cases of unmixed cyclitis occur in the cases of heterochromia of the iris with precipitates in the lighter colored eye. These cases do show a peculiar atrophy of the iris tissue. The signs in the iris may be almost negligible with a very marked cyclitis, so Fuchs speaks clinically of chronic cyclitis in these cases with precipitates on the cornea and without perceptible changes in the iris. Precipitates are a frequent but not indispensable sign of chronic uveitis; they may be present at times and then absent in the course of a disease extending over years. They merely show the lymphocytic nature of the exudate and therefore the chronic course of the inflammation. The fresh inflammatory changes consist in cellular infiltration of the uvea with immigration of cells into the aqueous and into the anterior part of the vitreous. The older changes are proliferation of tissue, especially of the ciliary epithelium, adhesion of structures to each other and organization of membraneous exudates. The cells found in the aqueous and in the tissue of the uvea are mostly lymphocytes, as is the rule in chronic inflammatory processes. The kind of cells found in the exudate depends on the intensity of the inflammation and not on the nature of the exciting cause. Many of these lymphocytes later undergo a change, their nuclei become larger, longer and lose some chromatin, and the protoplasmic body larger. These large lymphocytes are relatively scarce in the tissues but form the majority in the anterior chamber exudate. In the tissue we meet also scattered polynuclear leucocytes, mast cells, eosinophiles

and plasma cells; the mast cells frequent, the eosinophiles rare. Occasionally plasma cells are found almost exclusively. The characteristic exudate is the precipitate on the cornea; anatomically this occurs in two forms which may be called pseudo-precipitates and true precipitates. In cases of the pseudo precipitate a continuous cell layer which is of unequal thickness covers the posterior surface of the cornea. In places there are gaps, in other places it is heaped up. The endothelium is frequently altered under the deposit. The pseudo-precipitate occurs most often in mild traumatic iritis. True precipitates occur in endogenous iritis. Of course exceptions are found. The true precipitates are fairly compact, well defined clusters of cells sometimes almost spherical, like little hills with steep sides, or flat on top and with a surface irregular from projection of cells. Between the separate precipitates Descemet's membrane is either entirely clear or here and there spotted with single cells or with a few grouped together. Under the true precipitates the endothelium is normal, perhaps under large and old precipitates there may be a gap. In the case of pseudo-precipitates the leucocytes in the aqueous singly become attached to the cornea; in true precipitates leucocytes free in the aqueous unite into balls and then, as a mass, become attached to the cornea. A further growth of these is not excluded or neighboring ones may coalesce. True precipitates mark spontaneous chronic iritis, pseudo-precipitates mark the more acute cases, especially those of traumatic origin. Clinically, strong magnification may show the pseudo-precipitates as small dots, not regularly round and not sharply outlined, and white or gray. True precipitates are small, but sometimes larger, fairly round, sharply outlined, often yellowish or brownish. They may remain months while the pseudo-precipitates are of short duration. Both kinds of precipitates are composed chiefly of lymphocytes which are larger than those forming the exudate in the iris. In precipitates of short duration the cells are clear, well stained, and granular, while in older ones the cells run together, stain poorly and are little, or not at all, granular. Occasionally isolated polynuclear cells are found and often fibrin. Pigment granules are common like the chromatophores of the uvea, sometimes in large spheres giving a black or brown color to the precipitates. The precipitates are distributed by centrifugal force over a triangular area, or chance may govern their arrangement or their situation may correspond to an inflammatory focus in the cornea. Resolution of the precipitates begins at the base and they disappear in most cases without leaving a trace or they may become darker with time and remain permanently. Rarely the precipitate organizes to connective tissue. The question of the origin of the leucocytes which form the precipitates is yet undecided, some authors favor origin from the iris, others from the iris and anterior part of the ciliary body together. Both these regions and the posterior part of the ciliary body as well can give rise to precipitates. Deposits occur on the iris and on the lens capsule in the pupillary space and may be seen on the tissue of the iris, when they are large enough. Fuchs thinks the old view right that precipitates on the iris and in the pupil occur when the patient lies on his back, as during sleep. True precipitates do occur on the retina.

From a clinical standpoint we may distinguish three groups of endogenous chronic uveitis: (1) Light cases with precipitates without posterior synechiae; a chronic cyclitis lasting years without much change. The first serious complication aside from opacities in the vitreous may be increase of tension. In this group may be placed the cases occurring in heterochromia iridis. (2) Cases of medium intensity with posterior synechiae as well as precipitates. In time seclusio pupillae may result. (3) Severe cases ending in atrophy of the eyeball. Of course these groups grade into each other. Now anatomically we may make five groups: (1) Cases with changes in the iris (and often in the chorioid) without involvement of the ciliary body. In the iris, light infiltration and later atrophy of the tissue, adhesions of the pupillary edge to the capsule and a membrane in the pupil only or also on the anterior surface of the iris. (2) Cases with changes in the iris and also in the ciliary body. (3) Cases with membranes in the interior of the eye on the ciliary body and often also on the chorioid. Total separation of the retina and atrophy of the eyeball often follows. (4) Cases with changes resembling those of sympathetic ophthalmia. (5) Cases with great infiltration of the uvea and also of the retina with necrosis of this organ. As to etiology, groups 1 and 2 may be attributed to a slight but continuous irritation working on the surface, probably from the presence of an irritating agent in the aqueous. Group 3 has organized membranes which are like those in exogenous uveitis after perforation. Some of our cases may have such an origin, though hardly the bilateral ones. Some may be of metastatic origin. Group 4 and 5 suggest a parasite in the tissues perhaps coming from the blood. The iridocyclitis after separation of the retina is of endogenous type and not caused by microorganisms but may be ascribed to the irritative agency of the subretinal fluid. Fuchs had 15 such eyes to study. An early case showed very slight infiltration of iris and ciliary body with lymphocytes and an adhesion of pupillary edge to anterior capsule. The older cases showed in one half of them, seclusio pupillae and pushing forward of the iris, and the half without iris bombé showed either (1) incomplete adhesion of pupillary edge to capsule or (2) a complete fusion of surface of iris to the capsule or (3) subluxation of lens or (4) increased tension. If the separation of the retina is not primary but secondary to an endophthalmitis there are characteristic membranes at the ciliary body and surface adhesion

of iris to lens and so no iris bombé. The inflammation often limits itself to the pupillary edge forming an annular synechia while on the posterior surface of the iris and the ciliary body there is no exudate. A membrane forms in the pupil and may extend on the anterior surface and also a little posteriorly on the capsule so as to take the pupillary edge between its two layers. New vessels may form in the anterior layer and if the pupillary edge is not entirely bound down, contraction may cause an ectropion of the pigment layer and sphincter. The stroma of the iris may be free from infiltration and show an atrophy of various grades or slight infiltration may occur like that in chronic uveitis. Two thirds of the cases show changes in the ciliary body either a light diffuse infiltration throughout or the pars plana alone may show the severer types. The chorioid even back to the papilla may be involved and very large "Drusen" of the lamina vitrea are found.

HYPOPHYSIS DISEASE.

Emory Hill's[11] paper should be read in full. His third section on the eye symptoms of hypophysis disease is abstracted as follows. Enlargement of the hypophysis, from its position, may produce a great variety of eye symptoms. Exophthalmos and other pressure effects are frequently absent and their presence does not aid in distinguishing between the acromegalic cases and those representing a hypofunctioning gland. Palsies of ocular muscles in fact are more frequent in the latter type. Authors give temporal hemianopsia in from 38% to 46% indicating that temporal hemianopsia is not essential to the diagnosis and we may recognize the disease long before this symptom is present. Cushing says: "The primary defect usually involves the color boundaries alone in one upper temporal quadrant and the temporal field is gradually involved. The color fields are involved first and the form fields later. The macula region, spared for a long time, is implicated first in its temporal half and then wholly. Rarely are the two eyes affected in an equal degree. Homonymous hemianopsia occurs in a number of cases. A great variety of contractions of the visual fields may be found. Color interlacing and daily variations in the fields are found frequently." Amblyopia and amaurosis are late findings. Primary optic atrophy is more frequent than neuritis and secondary atrophy. When intracranial pressure is a late and rapid development choked disc may be imposed upon a primary atrophy. Scotomata, contrary to the older view, are frequent and important and may represent the beginning of larger defects which will become hemianopsias.

BLUE SCLEROTICS AND FRAGILITAS OSSIUM.

Within the last three years the inherited nature of this congenital peculiarity has been proved. The patients have the sclera of a bluish tinge described by Stephenson as leaden and by others as pale azure blue usually uniform in color from cornea back to equator, though the ciliary region may be deeper in tint. Von Ammon first described it in 1841 and in 1903 Buchanan examined a case anatomically finding the sclerotic one third of its normal thickness. Peters[12] in 1908 first mentioned its hereditary transmission. The patient, his father, his uncle, one cousin, an aunt and a grand parent were said or known to have had blue eyes of this sort. Four generations were affected. Four of these cases had a typical embryontoxon, which may accompany many congenital misformations. Abnormal transparency or abnormal thinness of the sclera may account for these cases and Peters inclines to the latter view. There was no sign of stretching, either buphthalmos or even myopia in his cases. Stephenson[13] in 1910 reported a case with a small embryontoxon towards the upper margin of each cornea and a congenital crescent at the lower margin of each optic disc. He found 32 individuals in four generations and 21 had eyes similar in appearance to the patient, 7 were males and 14 females. Harmon[14] further investigated this family, covering 55 individuals and 5 generations, of whom 30 had this congenital peculiarity. The hair varied from dark to yellow and the irides varied equally. Most of them had astigmatism of considerable amount and Fuchs coloboma of the lower edge of the disc. Harmon ascribed the defect to unusual thinness of the sclera. There were 12 males and 18 females. Inheritance was through females always. Eddowes was apparently the first to note that persons with blue sclerotics had frequent fractures of the bones. He thought the condition of the sclera indicated a want of quantity or quality in the fibrous tissue of the body. Burrows in 13 cases of blue sclerotics found 9 who suffered from fractures from trivial violence, and of 16 persons in the same family with normal sclera none had had fractures. Adair Dighton[15] in 1912 reported 9 cases in four generations and five of them were victims of fractures often repeated from trivial causes. Peters[16] again in 1913 reinvestigating his family found the father and two sons had had seven fractures of the long bones. Conlon[17] reports a family where the blue sclerotics appeared in five generations. He saw personally a father and five children all affected and all with embryontoxon, and three children had a liability to fracture from slight violence, while the history showed fractures common in the family. No one of the six seen had Fuchs coloboma. Conlon believes the explanation of the color is abnormal transparency and not abnormal thinness of the sclera and that the case examined histologically by Buchanan was not a typical one. Conlon had x-rays of fibula and tibula taken showing both bones with a much enlarged medullary canal and a thin cortex. The shaft of the fibula was enlarged irregularly

and the cortex was almost entirely wanting at the enlarged places. The wrist bones showed a similar condition. All the bones showed atrophy and a lack of density.

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Reports of Societies.

THE AMERICAN NEUROLOGICAL ASSOCIATION.

THIRTY-NINTH ANNUAL MEETING, HELD AT WASHINGTON, D.C.

MAY 5—7, 1913.

THE PRESIDENT, DR. PEARCE BAILEY, NEW YORK, IN THE CHAIR.

(*Concluded from page* 62.)

THE RÔLE WHICH HEREDITY PLAYS IN INDUCING EPILEPSY IN CHILDREN SUFFERING FROM INFANTILE PALSY.

DR. L. PIERCE CLARK, New York, and DR. EDWARD A. SHARP, Buffalo, N. Y.: In a comparative analysis of some 886 cases of epilepsy, divided equally between those suffering from the idiopathic disease and hemiplegic epilepsy, we found that the heredity charts of the two classes were practically identical quantitatively and qualitatively. We, therefore, deduced the conclusions that the prognosis in any cerebral hemiplegic child predisposed to epilepsy because of his palsy was enormously increased by the presence of a hereditary neuropathic constitution in a given case, and that the palsy *per se* played a secondary rôle and a much less important one than heretofore supposed.

DR. E. E. SOUTHARD, Boston: At the Psychopathic Hospital, the chief of the out-patient department, Dr. Lucas, has been working upon heredity in epilepsy, and an interesting confirmation of Dr. Clark's conclusions are in process of being obtained. Our investigator has spent some eight months upon the heredity in these cases, and had unfortunately been unable to establish what the speaker and his associates thought she might establish, namely, the difference in the heredity features in the organic and inorganic cases. I would judge that an intensive work upon this small number of cases would entirely confirm Dr. Clark's results.

THE FEEBLE-MINDED IN MASSACHUSETTS OUTSIDE OF INSTITUTIONS.

DR. WILLIAM NOYES, Boston: This inquiry was undertaken under the direction of the State Board of Insanity, which has the duty of recommending to the Legislature the provision that should be made each year for the institutional care of the feeble-minded. Heretofore no data have existed that would give an adequate idea of the extent of the provision needed because of the varying estimates of the number requiring institutional care. All the available sources of information were utilized, and the data received were entered on cards, one for each individual. The cards, finally brought together in alphabetical order to prevent duplication, showed a listing of 5,007 individuals, 2,640 males and 2,367 females, who were considered by one or more persons as being feeble-minded. These totals do not include returns from the schools of the five large cities of Boston, Cambridge, Lowell, Fall River and Salem. It is estimated that there are ot least 628 institution cases in the schools of Boston. It is easily seen, therefore, that the institution cases in the schools of the four other cities would increase the totals in a very marked degree. On the other hand, it must not be assumed that the 5,007 individuals listed in the census are by any means all institution cases. Defective delinquents have been rejected when known to be such. For the purpose of comparison with the state census of 1905 a more intensive study of a given section, including twenty-one towns, was made. One hundred and five feeble-minded individuals were found, while the state census gave but 37, a very marked difference. If the same proportion held throughout the state, the total number in the community would be 7,861. A committee has prepared tables estimating the cost to the state of three feeble-minded families,—the W family and two branches of the B family. The tables are made on the estimated cost of caring for a feeble-minded child by the State Board of Charity at $180 a year until the average age of thirty-three. The totals of these feeble-minded children are as follows: 9 members of the W family will cost the state $30,705; 7 members of the B-I family will cost the state $21,470; 3 members of the B-II family will cost the state $12,600.

DISCUSSION.

DR. L. PIERCE CLARK, New York: I consider the census which Dr. Noyes has made highly important from many points of view. I am rather surprised to find from Dr. Noyes that the number of feeble-minded in Massachusetts is relatively small. In New York City alone there are over 7,000 uncared-for in the schools, even at a conservative estimate, without a definite census being made. In New York, the profession had doubts as to whether the special classes for instruction could serve other than as a makeshift until segregation in colonies could be undertaken. It was the best thing that offered itself.

DR. NOYES: Segregation with us means merely committing the subjects to the schools at Waverly and Wrentham, state institutions. Of 87 women under the charge of the state board of adult poor, 68 were known to have had children—92 illegitimate and 17 legitimate; making a total of 109 children born by 68 feeble-minded and borderline mothers. The statistics did not, as a rule, include the borderline cases because for various reasons authorities would not report a case unless pretty well marked. I believe that all states having to deal with this problem will have to come to this, that there shall be a definite census made of them

and of those the profession would look on as more dangerous, and that the state shall assume charge of all these and say they cannot have their liberty.

DR. DANA, New York: The latest estimate of New York state has something about 5,000 of this class; and so it seems to me the estimates mentioned by Dr. Noyes rather confirms the estimates made in New York.

DR. NOYES. I was surprised and gratified when the inquiry into these special towns came out that it practically agreed with what is generally put out, about 1 in 500. I obtained the information myself in the summer time, interviewing by telephone and verbally all the physicians and the superintendents and supervisors of the poor.

LESIONS OF THE HYPOPHYSIS FROM THE VIEWPOINT OF THE SURGEON.

DR. CHARLES H. FRAZIER, Philadelphia: I present the results of four cases of hypophyseal disease in which the hypophysis had been approached by his transfrontal intracranial method. There were no operative fatalities. I would call attention to the advantages of this over the transphenoidal method, as indicated by my own experience and from a review of 65 operations by various surgeons who have used the extracranial approach, and to the difficulty in determining before the operation what the nature or size of the lesion is. The same clinical picture is present in all sorts of hypophyseal lesions, including hyperplasia, benign and malignant growths. Any one of these lesions may lead to evidences of hypo- or hyperpituitarism or to neither. The only evidence of pituitary disorder in many cases is revealed in the visual disturbances and the signs of intracranial tension without the least suggestion of the perversion of the metabolic processes. Much confusion that has arisen in the minds of the experimentalist as to how vital the hypophysis is for the maintenance of life, and I am inclined to accept the opinion of those who have found in animals that complete removal is not incompatible with life. I would refer to the further confusion in the minds of the pathologists as to the classification of pituitary tumors, and show how comparatively benignant is the life history of certain malignant lesions, so that in the presence of malignancy the beneficial effects of operation would extend over a number of years. I review the indications for surgical therapy, the beneficial results of which are seen in the majority of instances in the relief of the visual disturbances, headache, psychic disorders, and to a less extent of the symptoms of acromegaly and dystrophy. I find it of advantage on my own cases to combine glandular feeding with surgical intervention, and I do not believe that operation should be resorted to, except in the presence of impending blindness, until glandular feeding has been given a trial. I am fully convinced that in the future the transfrontal method of approach would be adopted by the general surgeon, and, if the transphenoidal method is used at all, it should be practised only by the specialist trained in the technic of intranasal procedures. Palliative procedures, such as temporal or sella decompression are only of questionable value and only transitory in their influence upon the symptoms.

DISCUSSION.

DR. CRAMER: In 1911 there was brought to me a patient who, in 1873, had become completely blind. This, of course, was before the days of pituitary agitation or much pituitary knowledge. In 1911 she appeared with the pituitary syndrome and died with inanition in the latter part of that year. Here was a patient who lived with pituitary tumor, blind, from 1873 until 1911. If operation cannot influence or retard the development of compression symptoms, it makes no difference how safe the operation may be, whereas, if the intracranial route will do this to a greater extent because, as I have pointed out, the tumor most frequently grows upward, that operation is the one that should be developed.

DR. ALFRED REGINALD ALLEN, Philadelphia: In the past year Dr. Frazier has sent me four specimens of scrapings or excisions from a part of the pituitary. The point of interest is the discrepancy of opinion of various men as to what these growths are. I have been greatly interested in the peculiarity of the process simply from a morphological standpoint, and whereas, the profession has a very complete idea, from the histological and histopathological aspect, of chronic interstitial nephritis and many other things of that kind, yet when we come to the pituitary our knowledge is very slight. I believe that one reason for knowing so little is that the surgeon digs out a piece in the operating room and sets it aside, and the piece remains until after the operation, and in the meantime dries out and reaches the pathologist's hands in bad condition for study. If surgeons would care better for these tissues we would soon know a great deal more about the histo-pathology of neoplasms of the pituitary body.

DR. HERMAN HOPPE, Cincinnati: I have in my possession a brain tumor that was obtained before the days of the x-ray, and also before the days of much knowledge of hypophyses. It is a hard fibroma that is probably two inches in diameter. It never could have been removed by the transnasal route. Today this case would be diagnosed at once, and that tumor could have been removed very easily by the transfrontal route. This man's life would have been saved, absolutely, providing the surgical technic had been successful.

DR. CHARLES H. FRAZIER, Philadelphia: In my paper I tried merely to state the problem from the standpoint of the pathological features with which surgeons had to deal in order to open the way to some conclusion as to the best method of dealing with this problem. I tried to be conservative, at least in my estimate of the usefulness and the limitations of surgery. The point I wished to emphasize, however, was that these so-called malignant lesions do run a very benign course, and when these tumors are large in proportion, they grow up towards the hemispheres, not down, so that they were more readily approached from above, also that in most of the operations done through the endonasal methods, there had been a very incomplete removal of what in many instances was a very large tumor, and, lastly, that, in the hands of most surgeons discussing general surgical procedure, the intracranial method would prove to be the safer of the two. When one recalls to mind the anatomical feature of these two operations, it will be observed that one can draw a line from the tip of the nose, or one appproximately from the upper lip back through the spenoid process to the sella turcica, which line would be longer than a similar line through the supraorbital ridge to the sella turcica. If, in the early stages of the operation, one punctures the dura over the frontal lobe, so that during

the subsequent stages the cerebrospinal fluid is allowed to escape as freely as it may in order to afford an opportunity for the displacement of the hemispheres from that portion; if one displaces the frontal lobe upwards, with the patient's head in the so-called Rose position; if then, one has a suitable headlight, which in some instances is necessary and in some not, according to the character of the day, a very correct view can be had down to the optic foramen, or down to the point where the optic nerve passed through the optic foramen. It is not necessary to remove the rim of the foramen. When you are at the apex of the orbit you are really within a trifling distance of the pituitary body; and it remains then only to make a transverse or horizontal incision in the dura about a quarter of an inch above the floor of the base of the skull in order to avoid the sinus, it remains only to make this horizontal incision in the dura to expose the contents of the sella turcica. As thus described, this sounds like a very simple procedure, which it is. In most instances it is simpler than the exposure and removal of the Gasserian ganglion; this is not because I am partial to the operation, but I think there are other surgeons who have tried the method who will confirm what I have said. I had a conversation last night with Dr. Elsberg of New York, who has done the operation only once, and he had been really surprised at the comparative simplicity of it and at the facility with which he reached the sella turcica and exposed a large round growth, and subsequently removed it with most striking results. The matter is still subject to question and we cannot come to any definite conclusion on one side or the other, but I still feel that eventually we will find that, if the pituitary body be approached, and, if the lesions of the pituitary prove to be amenable to surgical therapy, the transfrontal approach will be the more desirable of the two.

OFFICERS FOR 1913-1914.

Dr. Henry Hun, Albany, President.
Dr. Alfred Reginald Allen, Philadelphia, Secretary-Treasurer.

NEW ENGLAND PEDIATRIC SOCIETY.

A combined meeting of the Pediatric Section of the New York Academy of Medicine, the New York State Society, the New Jersey Pediatric Society, the Philadelphia Pediatric Society and the New England Pediatric Society was held in Boston, November 8, 1913. The morning was spent in visiting the various hospitals. Dinner was served at the University Club at 6.30 P.M. At 8.15 P.M. the combined societies met in John Ware Hall, Boston Medical Library. The following papers were read, and discussed:

1. On the Bacteriological Diagnosis and Treatment of Alimentary Disease in the Infant and Child, by Dr. Ralph Vincent, London.
2. Investigations in Vulvovaginitis by means of the Female Urethroscope, by Dr. John F. Sinclair, Philadelphia.
3. Active Immunisation in Diphtheria by Toxin-antitoxin, by Dr. William H. Park, New York.
4. The Position of the Stomach in Children, by Dr. James Warren Sever, Boston.

JAMES S. STONE, M.D., CHAIRMAN.
FRITZ B. TALBOT, M.D., SECRETARY.

DR. RALPH VINCENT of London, England read a paper

ON THE BACTERIOLOGICAL DIAGNOSIS AND TREATMENT OF ALIMENTARY DISEASE IN THE INFANT AND CHILD,

and demonstrated it by lantern slides.

Abstract: The organs are grouped according to the conditions determining their growth in their action upon milk. (1) Bacteria producing lactic acid but not producing gas. (2) Bacteria producing lactic acid, carbon dioxide and alcohol. (3) Bacteria growing in "pasteurized" milk. (4) Bacteria growing in milk after it has been raised to 100° C. The colon organisms were capable of acting proteolytically in certain conditions and when these conditions were present alimentary toxaemia was established. He had recently devised a method of differential staining by means of which the colon organisms could be recognized by direct microscopical examination of the stained film, and this had proved to be of great value in regard to clinical diagnosis.

DISCUSSION.

DR. C. H. DUNN: I have always been particularly interested in the bacteriological side of these diarrheal conditions. I think that Dr. Vincent's paper touches the main point at issue in the present stage of advance in our knowledge of the gastroenteric disorders. There have been two groups of men working upon this condition, one group entirely along chemical lines, and they come out with the results of fat intolerance, carbohydrate intolerance, proteid intolerance and so forth, and I think that this group has been rather too much inclined to neglect the role of these bacteria. On the other hand, the other group of men have been working along bacteriologic lines and they have been very much inclined to neglect the chemical aspects. I think what we need now is to bring the two separate lines on which the investigations have been carried out into closer harmony. I have always been convinced that an important part was played by the conditions of over acid fermentation on the one hand and putrefaction of the proteids on the other in a great many of these cases. It seems as if as the result of the work of Kendall and others we had gotten to the point where we were all ready for our treatment and had an idea of what bacteriologic processes were going on in the intestine if only we could recognize them clinically. We were ready to treat them with the proper diet or by introducing the proper organism, and we have known that in some conditions a great many cases can be very effectively treated by introducing acid-producing organisms, but what we have lacked most is some laboratory method for distinguishing one type from the other. Heretofore we have not been able to tell which organism was present and therefore we have not been able to tell which treatment was best to apply. If this work of Dr. Vincent is going to give us a rapid and systematic laboratory method of telling us whether we have to do with colon infection, conditions of putrefaction or overgrowth of the acid organisms, I think it will be exactly what we have been waiting for and what we need.

DR. JOHN F. SINCLAIR, Philadelphia, read a paper on

INVESTIGATIONS IN VULVOVAGINITIS BY MEANS OF THE FEMALE URETHROSCOPE.

Abstract: The purpose of the paper was to suggest improved methods of prophylaxis.—The study was based on 83 cases admitted to the Babies' Hospital of Philadelphia, which has been endoscopically examined. All were under three years of age. Both vulvar and vaginal smears were taken and examined bacteriologically. Careful notes were made of the conditions of the cervix and vaginal mucosa upon endoscopic examination.—The complement fixation test was employed in ten cases and was positive in fifty per cent. Of the 83 cases examined 16, or 19%, were found to be infected with the gonococcus, at the time of admission to the hospital, or to present highly suspicious evidences of such infection. Seven cases, negative upon admission subsequently developed vaginitis of specific origin. The early recognition of the infectious agent in latent cases is of immense importance in instituting proper prophylactic measures. Over twenty-one per cent. of the total number of cases examined would have escaped detection without the use of the endoscope. Only 30% of the babies in the "positive" and "suspicious" groups showed any visible signs of a discharge upon admission.

He concludes that to be effective prophylaxis must begin with a campaign of education in the homes where infants are born and raised, as well as in all manner of institutions which have to do with the various phases of child welfare. Day nurseries, infant and orphan asylums, hospitals, shelters, public bath houses, recreation centers and even our school houses are prolific sources of infection, and will continue to be, until adequate medical supervision is exercised and individual cases are isolated until free from the specific organism.

In day nurseries, shelters, foster homes of every description, and in hospitals, every child should be carefully examined upon admission for clinical and bacteriological evidences of gonococcal infection and promptly removed or isolated if the findings are positive. Proper isolation in institutions demands employment of special nurses, who shall have no other duties, or in any way come in contact with babies or children in other departments of the institution. The lay helpers should be free from gonorrheal infection and this should be determined by bacteriological examinations and by the complement fixation test. Systematic examinations of all inmates of such institutions should be made with thoroughness at convenient intervals that latent cases may be early detected and isolated before becoming new centers of infection.

In the case of public bath houses, recreation centers, and schools, efficient supervision should be exercised by properly qualified trained nurses so that every suspicious case may be promptly excluded and referred to a physician for treatment.

Boards of health should be empowered by law to make gonorrheal infections reportable and to exercise their authority along lines similar to those which they now employ in dealing with tuberculosis.

Medical attendants, especially gynecologists, and genito-urinary surgeons, should inform their patients clearly as to the nature of the disease and the danger of communicating it to innocent babes and children, at the same time giving minute instructions how they may safe-guard those about them.

Special clinics for the treatment of gonorrheal vulvovaginitis should be established in all the large cities as has already been done in Boston and New York.

DISCUSSION.

DR. RICHARD M. SMITH: Regarding the cases of which Dr. Sinclair speaks, it seems to me that one point of very great importance is the value of the complement fixation test. We have been in the habit of not considering a case, one of gonorrheal vaginitis, until we have had a positive smear, positive culture and positive fixation test. Some children have been kept from institutions or from school because of a vaginal discharge which on investigation proved to be not gonorrheal. It is very much worth while to be sure of the diagnosis. It also seems to me that a fixation test ought to be made in every case before it is called cured.

DR. WILLIAM H. BECK, New York, read a paper on

ACTIVE IMMUNIZATION IN DIPHTHERIA BY TOXIN-ANTITOXIN.

Abstract: Active immunization in 50 children has been carried out. Two mixtures were employed of toxin and antitoxin. In one, 66% of the amount of toxin required to neutralize 1 unit of antitoxin was used, in the other 50%. The children receiving the 50% addition of toxin produced very little antitoxin. Those receiving 66% produced in four fifths of the cases antitoxin varying from 1 to 6 units per cubic centimeter. The greatest amount was present at about the 10th or 12th day after the injection. The injections were given either as a single dose or divided in two doses at a week's interval. Absolutely no symptoms except in a few a slight local tenderness and a possible rise of temperature occurred. One fifth of the children developed no antitoxin and two of these developed diphtheria. This is a matter of great importance because not only does active immunization require several days to be established, but it fails in a certain percentage of the individuals. Immunization in hospitals or in institutions in which an epidemic of disease has occurred will probably be better treated by passive immunization with antitoxin. In the places in which on account of carriers the population is constantly apt to be infected, active immunization may be of value, much the same way as typhoid immunization is now practiced, except that in the cases of diphtheria it is to be applied to infants and young children rather than adults. Horses injected with these mixtures showed immunization on the third day and the greatest amount on about the seventh day.

DISCUSSION.

DR. EDWIN H. PLACE: It has been with great interest that I have heard Dr. Park's excellent paper, especially as the use of toxin-antitoxin mixtures were first suggested by Professor Theobald Smith. There has been, however, so much fear of unfavorable effects that no one has used them here—unquestionably an unfounded fear. It has been apparent to all working with diphtheria that great as has been the reduction of mortality, the morbidity has shown no clear or continued diminution since antitoxin came into use. The Boston curve as well as the New York figures fail to show that any real control over the prevalence of the disease has been secured and we are still dependent largely on

isolation. With the difficulty of recognition of the carriers at large and with the absence of any curative treatment for carriers, isolation has not gone to the desired extent as a preventative. These efforts to secure active immunization are therefore of much interest and importance. Dr. Meader last summer has studied at the South Department the effect of bacterial vaccines. But although there was a definite and usually marked increase in the bactericidal substance in the blood following vaccine administration, the disappearance of the diphtheria bacilli had no definite relation to this increase. It is unfortunate that more successful results were not obtained with the toxin-antitoxin mixture but there is hope that the future may know through these studies some great improvement in the control of diphtheria.

Dr. William H. Park: I think as Dr. Place has mentioned, that possibly with the use of the bacterial protoplasm in addition to the toxin we may obtain not only antitoxin immunity but also bactericidal. Although it is somewhat discouraging to find that one-quarter of those injected are not immunized, yet three-quarters is really a pretty large proportion, and that possibly this will be increased with the use and development of the bactericidal immunization. It is at least sufficiently encouraging to attempt a further investigation. It seems absolutely safe I hope in connection with a number of colleagues to test the value of active immunization in a great many cases.

Dr. James Warren Sever read a paper on

THE POSITION OF THE STOMACH IN CHILDREN.

Abstract: The data from which the conclusions have been drawn in this paper have been gathered from a careful study of over eighty children. X-ray pictures were made of the children's stomachs in the erect position. In practically all instances the lower border of the stomach was found at or below the iliac crests. The shape of the stomach was usually of the sink drain type. The so-called ideal "cow's horn" stomach was rare. The organs were as a rule rather large. All were lower than what heretofore has been supposed to be the normal position, namely, the second lumbar vertebra. It was the inevitable conclusion from a study of these cases that a low stomach is not abnormal, but is probably where it belongs, and that there is rarely a pathological ptosis.

DISCUSSION.

Dr. Maynard Ladd: Almost all of my own investigations have been in infants under nine months of age, and have been done more with reference to determining the gastric motility than the position of the stomach, but I am certain that in the infants, at least up to that age, the stomach is a great deal higher than in the older children that Dr. Sever speaks of. The stomach is high in the young child. I do not recall now in my particular series any stomach the lower border of which reached down to the crests of the ilia, or anywhere near to that level.

Dr. Jacobi: The position and shape of the stomach of the baby under nine months changes very rapidly from the vertical; at the end of one month it begins to be oblique, and at that time we frequently find it in front of the tenth dorsal. A careful observer has to take this into consideration also. In the very young baby the position of the stomach changes very often according to the food which it takes. Babies who are breast-fed have a different stomach from those who are artificially fed, and in artificially-fed babies the stomach will sink down even before this time. I think the lecturer will add to his data if he will take up the stomach of very small babies for the next year or two. The first demonstrations of the localization of the stomach are quite old, I have had to refer to it some time ago, and looked up some literature. The first paper I found on it was in *Unfeland's Journal* of 1825. There is a picture which shows the vertical position of the stomach at birth and very soon after. At the age of one month it begins to be oblique, and in a very few months more it changes considerably. I shall come again in a year or two and will listen to the reader's additional data.

Dr. Arthur H. Kimpton: I have had occasion recently to do autopsies on two very young children, one of three weeks, and one of four days old. The first one was a child normally born and gained weight at the rate of eight ounces a week for the first two weeks, but the first day of the third week it began to vomit and then vomited either five minutes or half an hour after taking food, not always immediately after. It was an undoubted case of pyloric stenosis. I saw the baby late in the evening and made arrangements to operate the next day as there was a palpable tumor, and the case was definitely one of pyloric stenosis, apparently not spasmodic. That child suddenly died before operation and at autopsy the stomach was in an oblique position high in the abdomen, higher than the text books tell us, and the photograph which I have to show you is practically the size of that baby's stomach as it came out. You will see the pyloric tumor, which is colored, and it is rather interesting to me because I had never seen a picture of a true pyloric stenosis. Dr. Whitney has the stomach as a specimen. Dr. Whitney said that the tumor looked to him like new growth than hyperplasia.

The other case was that of an infant four days old that began to vomit on second day, and was supposed to have had an artificial anus. You could pass your finger high into the rectum and palpate it with the other finger bi-manually. There was no pyloric stenosis. I saw the child after it had been vomiting for some time, and there was nothing to do but make an artificial anus. There was no large intestine to be found to make an artificial anus with, so I made one from the lowest loop I could get and made no attempt to find out where the obstruction was. The child died and an autopsy was done and the intestine examined from beginning to end, and that stomach, too, was extremely high, in an oblique position. That baby had to all intents and purposes no large intestine. It was about as large as a very small pencil and nothing in it, except putty-like material. The cause of the obstruction was about one inch from the ileo-cecal valve, due to bands coming up from the side of the pelvis catching it in a half-hitch and twisting it so that you had a mechanical obstruction. No meconium had ever gone into that large intestine. The baby passed marked quantities of this inspissated material, and it was white putty-like material, which came out in strings. We do not see enough of these cases to learn much from them. If I should see another case, I should look for an obstruction somewhere close to the cecum rather than high in the large intestine

Book Reviews.

The Administrative Control of Smallpox. How to Prevent or Stop an Outbreak. By W. McC. WANKLYN, B.A. (Cantab.), M.R.C.S., L.R.C.P., D.P.H., Fellow of the society of Medical Officers of Health, and formerly referee in the diagnosis of smallpox and medical superintendent of the river ambulance service (smallpox) of the Metropolitan Asylums Board, London. 8vo., pp. 83. New York, Bombay and Calcutta: Longmans, Green and Company, 39 Paternoster Row, London. 1913.

Into this astonishingly brief book (hardly an hour's reading) Dr. Wanklyn compresses twenty-one years' experience in the handling and prevention of smallpox epidemics. The suggestions are concise, sound and practical, the illustrations interesting and illuminating. The book is aimed primarily at those who are or aspire to be public health officers, and the references are to British conditions, especially with regard to vaccination and to public health organization. The book will, however, find valuable application in any community which is only partly protected by vaccination and yet is constantly exposed to a dropping fire of infection from all parts of the world. Such communities are the rule in America as well as in England, a fact we are apt to forget, for where smallpox is not prevalent, nothing seems so remote. To our mind, the author places somewhat too much importance on the danger of importing smallpox "in clothes, rags and other raw material for manufacture," and draws an unwarranted distinction between the infectivity and the virulence of smallpox strains. The book affords valuable sidelights on the importance of vaccination, and is eminently sane and usable by anybody anywhere.

Taschenbuch der Magen and Darmkrankheiten. By DR. WALTER WOLFF. Berlin and Vienna: Urban and Schwarzenberg. 1912.

Dr. Wolff has put into a little book of 160 pages the more common and useful diagnostic and therapeutic procedures that are carried out in the Augusta Hospital in Berlin. The book bears the official approval of Ewald in the form of an introduction. It is a simple, clear, well written book, especially designed for students and practitioners. The book is sound and sane throughout. The discussion of the section on gastric diseases is complete. The discussion of intestinal diseases occupies less than twenty pages and is superficial and cursory. As a small handbook on diseases of the stomach the book can be heartily recommended.

A Text-Book on Gonorrhea and Its Complications. By DR. GEORGES LUYS, late assistant to the Urological Clinique, Hospital Lariboisière, Paris; prizeman of the Faculté de Médecine, Paris. Translated and edited by ARTHUR FOERSTER, M.R.C.S., L.R.C.P. (Lond.), late resident medical officer, London Lock Hospital. With 200 illustrations and three colored plates. New York: William Wood and Company. 1913.

This book is what its name indicates. It is a real text-book, and it is the most satisfactory and up-to-date record of this disease, as it exists in man, woman and child, which we have seen. The book is complete without being ponderous, is well written, well printed on good paper, and is exceedingly well illustrated. When compared with the many trivial and inefficient books, so frequently met with in this country and presumably elsewhere it is most convincingly adequate and efficient, both in its scientific and in its more practical and clinical aspects. That it has been so ably translated into the English language is cause for congratulation.

Taschenbuch der Diagnostik und Therapie der Lungentuberculose. By H. GERHARTZ. Berlin, Wien.: Urban and Schwarzenberg.

This is a small light volume of some two hundred pages of a size that would easily slip into a pocket or handbag. It contains much information in condensed and tabular form which must be of great value to German and Continental practitioners; it is of little or no value to the English and American profession. There are 48 illustrations, many of which illustrate methods of percussion of so elementary a nature as to be unnecessary; there are some useful diagrams showing the localization of tuberculous processes in various lobes, etc., and some excellent colored plates showing tuberculin reactions and pathological specimens. There are a few x-ray plates of mediocre quality.

The book is divided into four large sections: (*a*) the proof of tuberculous infections, which considers diagnostic tuberculin reactions, etc.; (*b*) the recognition of tuberculosis, a long section on diagnosis of all stages in which far too much attention is paid to sputum examination, the x-ray, and the diagnosis of cavities, etc., and not enough to early diagnosis; (*c*) the treatment of tuberculosis, in which many pages are devoted to the formulae of various drugs and tables of prescriptions, and only a few pages to hygienic sanatorium treatment; (*d*) the prognosis of pulmonary tuberculosis.

As is not uncommon with many such pocket editions the author tries to cover far too large a field and loses sight of many important points in a mass of unessential details. The book has many good points, however, and should be of value to German physicians.

THE BOSTON

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TROPICAL MEDICINE IN ELIZABETHAN DAYS.

IN the *Annals of Tropical Medicine and Parasitology* for May, 1912, Dr. Charles Singer, recorded some of his observations on "Early references to tropical diseases." Notably he referred to a remarkable book,* published at London in 1598 by one "G. W.," entitled "The Cures of the Diseased, in Remote Regions, Preventing Mortalitie, Incident in Forraine Attempts, of the English Nation."

In his dedication of this book to Queen Elizabeth, the author says:

"In my unjust imprisonment in Spayne, it pleased God to afflict me with a *Tabardilla* Pestilence; whereof being in cure by an especiall Phisition of the King, I observed his Methode for the same, and such other diseases as have perished Your Majesties people in the Southerne part. Which Remedies have since by my direction taken the like good effects."

"Tabardilla," Dr. Singer believes, may refer to yellow fever, dengue, or typhus. Other diseases described by "G. W." are "calenture," heatstroke or malaria, and "espinlas," of which he says:

"The partie having the Espinlas will be giddie in the head and have pain and pricking at his breast as with many thorns: wherefore I thinke it is so called of Spina and Espina, the Latine and Spanish words for a Thorne.

There will be upon the Huesso radio (*Anglice*, radial bone) or Focell, being the upper part of his armee, a hand breadth about the wrist, a little Kernell by which it is certainly knowne. And he that hath this Disease will not have appetite to meate and drinke."

This malady does not seem identifiable with any modern tropical disease.

Scorbutus is described under its Spanish name of "tiñoso":—

"It is an infecting Disease, Sufficientlie known unto Seafaring men; who by putrified meates and corrupted drinkes, eating Bisket flowrie, or foule crusted, wearing wet apparell . . .and slothful demeanour. . . obtained the same. The disease is so ordinary at Sea, as it hath seldome seen any Ship or Pinnice, to be foure moneths upon the Voyage. . . but some of the Companie have had this Disease. It is a certaine and assured medicine against this Disease to have such quantitie of Beere, brewed with Graynes and Long pepper, as in the morning twice everie weeke there may be given a good draught to a man. . . But White Wine or Syder, boyled and brewed with Graynes and Long peper, in like quantitie is very singular good. And it is not fit to suffer the gums to abound with flesh; and therefore sometimes let them bleede and cleere them withe strong Vinegar."

Apparently "G. W." was a navigator, perhaps a gentleman explorer, and not a physician, for in his preface he says:—

"The cause that induceth mee publiquelie to express the Cure of Diseases of such consequence (which) every judiciall conceite may perceive to have been the only prejudice to our Nation in the expeditions of our time to the Southerne parts; from whence they. . . have returned with renouned victorie, yet exceedinglie oppresst withe extreame and penurious sicknesse, that hathe much more prevented the proceeding and performing of their pretensions than the power of Enemies, is not that a purpose, practitioner-like in Phisicke or Chirurgerie, to assume unto me anie knowledge in those Sciences and Faculties: But to possesse all men of remedies for such infirmities, as in my owne experience, have infinitelie impaired English Forces in intemperate Clymates, which I publish for the good of those whom cause may compell to have use thereof, and would be so censured of all."

With the recrudescence, in our own day and community, of the study of tropical disease, it seems particularly pertinent thus to turn back to this early treatise on tropical medicine from the Elizabethan days of Drake and Hakluyt and Frobisher and Raleigh.

* Reviewed in the *British Medical Journal*, November 23, 1912.

GERMAN MEDICAL INSURANCE.

IN the issue of the JOURNAL for Jan. 1 we commented on the conflict between the physicians and the insurance companies in Germany rela-

tive to the administration of the national medical insurance act. In view of this conflict, the Prussian government has now issued a new imperial insurance order, of which paragraphs 368 and 370 deal with the methods available to the insurance societies, should the latter fail to secure the services of a sufficient number of physicians to administer the act.

"Paragraph 370 authorizes the insurance societies to pay over a lump sum of money to the insured persons in lieu of medical attendance, medicines, and certain appliances, provided that the insurance societies can show that through no fault of their own they have been unable to secure the services of a sufficient number of medical men under contract. The offer of a contract on the part of the medical practitioners must contain 'suitable or appropriate' provisions (*angemessene*), and it is on the interpretation of this particular word that the action of the Prussian ministers is based.

"Paragraph 368 provides for the giving of medical treatment in the absence of any contracts at all. In this instance the doctors employed would be the so-called 'advisory staffs,' or medical men who, in defiance of the medical organizations are prepared to do work for the insurance societies, but will not put their names to paper."

The Prussian government has further determined that the word *angemessene* shall be so interpreted that if "the doctors offer service with free choice of doctor, the institution of arbitration courts, and the right of control by medical organizations, the society will be justified in regarding the provisions as unsuitable. This decision indicates that the government attitude is adverse to the physicians.

In the issue of the *Berliner Aerzte-Correspondenz* for Dec. 13, 1913, the executive of the federation of German medical societies, in conjunction with the Leipzig League, published a statement pointing out that the struggle is not directed against the beneficiaries, but only against the executives and managers of the insurance societies. This statement further contains a number of general and special instructions to local medical societies in dealing with conditions which may arise under the provision of the above paragraphs. It appears that the German physicians are determined to oppose the government and the insurance societies fearlessly in the maintenance of their rights, and it is to be hoped that their opposition may prove more efficacious than was the case with the medical profession of England.

TYPHOID IN THE ARMY AND NAVY.

REPORT from Washington, D. C., on Dec. 31 states that during the year 1913 the United States Army, with an enlisted strength of over 80,000, had only two cases of typhoid fever, neither fatal, one of them being in a man not immunized by antityphoid inoculation. Prior to 1910 there used to be about 250 cases, with 25 deaths annually. In 1910, the year voluntary inoculation was begun, the incidence rate was 2.32 per 1000. In 1911 it was 0.8; in 1912, 0.26. It is interesting to note that coincidently the incidence rate of tuberculosis has fallen from 4.7 per 1000 in 1909 to 3.49 in 1912.

Among the 40,000 sailors of the United States Navy there were only 7 cases of typhoid fever, with no fatalities, during the year ended June 30, 1913. The incidence rate of typhoid in the navy in 1911 was 3.61 per 1000; in 1912, 0.92; in the nine months ended Oct. 1, 1913, only 0.3. Antityphoid inoculation in the navy was begun later and has proved harder to enforce than in the army. Its benefit as a prophylactic procedure in both branches of the service seems established beyond question.

MARRIAGE AND EUGENICS IN WISCONSIN.

REPORT from Milwaukee, Wis., on Jan. 7 states that, in view of the difficulty of securing medical certificates under the new eugenic marriage law, persons intending matrimony are taking advantage of the common law marriage, which is legal upon filing a contract for a fee of ten cents. The Ashland Medical Society has voted to furnish examination certificates, including the Wassermann test, for a fee of eight dollars. One man who wished to marry a girl in order to legitimize his expected child by her, was refused license to do so because he had no certificate. Apart from its bearing on eugenics, this action seems at least somewhat unjust to the girl and the child.

MEDICAL NOTES.

DISCONTINUANCE OF SEX HYGIENE LECTURES.—Report from Chicago states that on Jan. 7 the local board of education voted to discontinue the

giving of so-called sex hygiene lectures in the public schools, after a trial of one year.

THE ANTIQUITY OF THE TRUSS.*—At the site of an old Franco-Roman village, just south of Clermont-en-Argonne, were found two trusses of iron, dating from the eighth century; one a left inguinal, so damaged and soiled that it was almost disintegrated; the other heavier and better preserved, a right scrotal, with a scrotal pad of about 5 cm. dimensions. Most of the relics found in the excavation of this town have been sent to the Museum Saint-Germain-en-Saye, where they are kept in a special cabinet, the gift of Dr. Mennier of Laroye.

OPERATION ON KING ALFONSO.—Report from London on Jan. 1 states that King Alfonso, of Spain, has recently come to London for the purpose of having a growth surgically removed from his throat.

A LONG RETAINED LITHOPEDION.—In the issue of the *Lancet* for Dec. 27, 1913, is reported from Toronto a case of a lithopedion retained in the abdomen for 42 years, and during four succeeding normal pregnancies, and finally removed by laparotomy. This is believed by the author to represent the world's record in this regard.

SMALLPOX AT GUANTANAMO.—Report from Washington, D. C., on Jan. 6 states that 34 new cases of smallpox, nine of virulent character, have developed at the Guantanamo naval station among sailors exposed during the recent outbreak aboard the United States battleship *Ohio*. The station has been quarantined and the *Ohio* is being fumigated.

BOSTON AND NEW ENGLAND.

BOYLSTON MEDICAL SOCIETY.—On Friday evening of last week, Jan. 9, an open meeting of the Boylston Medical Society was held at the Harvard Medical School, to which all undergraduates and members of the medical profession were cordially invited. An address was given by Dr. J. M. T. Finney, associate professor of surgery at Johns Hopkins University and president of the American College of Surgeons.

AESCULAPIAN CLUB MIDWINTER MEETING.—Invitations have been issued to the twelfth annual mid-winter meeting of the Aesculapian Club of Boston, to be held at the Harvard Club on Saturday evening of this week, Jan. 17. The speakers will be Mr. Abraham Flexner, of the general education board of the John D. Rockefeller Fund, on "Some Aspects of the European Regulation of Vice"; and Dr. Richard P. Strong, professor of tropical medicine in the Harvard Medical School, on "Tropical Medicine as it Interests Us in Our Larger Seaports."

TWO LIVING CENTENARIANS.—Mrs. Clarissa Collins, of New Haven, Conn., who is said to have been born on Jan. 1, 1814, celebrated recently her supposed centennial anniversary. Her health is excellent.

Joseph Byxbee, a retired sea-captain of Norwalk, Conn., is said to have been born in 1810.

A CENTENARIAN.—John Weeks, who died on Jan. 5 at Norwalk, Conn., is said to have been born in June, 1808, at Fordham, N. Y., He had been blind for a year preceding his death, but otherwise his health remained vigorous until early last December.

WORK OF BOSTON DISPENSARY.—The recently published 117th annual report of the Boston Dispensary records the work of that institution for the year ended Sept. 30, 1913. During this period, 113,000 patients, of whom 11,000 were babies and children, visited the various clinics; and over 8000 patients were treated at their own homes. In the hospital for children 323 patients were received. To maintain and continue the present service of the Dispensary to the community, the sum of $30,000 is required annually, and liberal subscriptions towards this amount are urgently requested.

CHILDREN'S HOSPITAL CONVALESCENT HOME.—At the annual meeting of the corporation of the Convalescent Home of the Children's Hospital of Boston, held in this city last week, the secretary's report showed that during the past year 826 patients were treated at the Home.

BOSTON VITAL STATISTICS IN 1913.—During the year 1913, 9378 marriages and 19,299 births were recorded in the city of Boston, both numbers being larger than in any previous year. The total number of resident deaths was about 10,300, corresponding to a corrected rate of 14.1 per 1000, as compared with 14.2 per 1000 in

* From *La Chronique Médicale*, August, 1913.

1912. The gross death-rate (11,890 persons) remains the same as last year, 16.17.

"The rate for typhoid fever will be about .82 per 10,000 population, against the low record of .79 in 1912. If deaths of non-residents be deducted, the corrected rate becomes .69, against .68 in 1912.

The rates for scarlet fever and diphtheria are both higher than in 1912.

Per 10,000 population, the death-rate from scarlet fever will be about 1.06, against 1.04 for the preceding five years, and the death-rate from diphtheria will be about 2.12, against 2.60 for the preceding five years.

The particularly bright spots in the year's record are the low rate from pulmonary tuberculosis—about 14.4, against the previous low record, 15.2, made in 1912—and the estimated infant mortality rate, 107 per 1000 births registered."

NEW YEAR'S GIFTS AND BEQUESTS.—Mr. David D. Stewart, of St. Albans, Me., has recently made New Year's gifts aggregating $230,000 to 12 colleges, hospitals and charitable institutions of Minnesota, 9 of them being in Minneapolis.

The will of the late Dr. J. F. Frisbie, who died on Dec. 17, 1913, in Newton, Mass., contained a bequest of $25,000 for the foundation of a Frisbie Memorial Hospital in Rochester, N.H., the testator's native home.

The will of the late Horace W. Wadleigh, of Cohasset, who died at Boston on Dec. 26, 1913, contains public legacies of over $120,000. Among these are bequests of $5000 each to the New England Peabody Home for Crippled Children, the Boston Home for Incurables, the Industrial School for Crippled and Deformed Children, and the Boston Floating Hospital, and $2000 each to the Children's Hospital, Boston, the Massachusetts Charitable Eye and Ear Infirmary, the Vincent Memorial Hospital, the New England Hospital for Women and Children, St. Luke's Home for Convalescents, St. Monica's Home for Colored Women and Children, Roxbury, and the International Hospital, Naples, Italy.

NEW YORK.

OYSTERS AND THE PUBLIC HEALTH.—In the latest issue of the *Monthly Bulletin* of the City Health Department the subject of "Oysters and the Public Health" is treated *in extenso*. In the precautions taken by the department to insure that oysters sold in the city shall be free from contamination careful investigation of the physical conditions prevailing at the points furnishing the oyster supply has for some time past been systematically conducted, and particular attention has been paid to the location of the so-called "floats" and "drinks" situated not only within the city limits, but also in the surrounding country. While an outbreak of typhoid fever at Northport, Long Island, in 1912, which was at first supposed to be due to contaminated oysters, was subsequently demonstrated to be due to infected milk, a typhoid outbreak the same year at Goshen, Orange County, was traced by Stiles to oysters infected by "drinking" at the mouth of a sewage-polluted creek emptying into Jamaica Bay. In New York City, however, it is believed that oysters probably play but a small part, if any, in the annual autumnal rise of typhoid, for the infections constituting this rise regularly occur in July and August, a time of the year when there is only a very small consumption of oysters. Still, the sale of oysters at retail is regulated by permits specifying certain strict requirements, and somewhat more than a year ago the board of health passed a resolution declaring that it shall be unlawful to float oysters and other shellfish in polluted waters in the city, and that none which have been floated or treated with polluted water, or which are shown by examination to be polluted, shall be brought into the city or held, kept, sold, or offered for sale at any place in it.

COLUMBIA UNIVERSITY.—At a meeting of the trustees of Columbia University, held Jan. 5, the resignation was accepted of Dr. Livingston Farrand, junior professor of anthropology, who has been elected president of the University of Colorado. Dr. Francis Carter Wood, director of cancer research, at the request of that department, was assigned to a seat in the faculty of pure science. At the meeting a gift of $2500 for surgical research, from an anonymous donor, was announced, and among the other donations during the month was one of $100 from Dr. Willy Meyer, for the "Deutsches Haus."

TYPHUS FEVER AMONG IMMIGRANTS.—During the recent voyage of the Italian steamship *Roma* from Marseilles to New York, a case of typhus fever occurred on board. The vessel touched first at Providence, R. I., and was detained there in quarantine for a short time. On

her arrival at New York on Jan. 7, 250 of the immigrants aboard, 30 of them with suspiciously high temperatures, were removed and placed under observation at Hoffman Island for 14 days. Four of these persons have since developed typhus. The vessel has been disinfected. Meantime, report from Providence states that four cases and one death of typhus fever have occurred in that city since the coming of the *Roma*.

A LONELY CENTENARIAN.—Joseph Wormuth, who died recently at Shinopple, Delaware County, was said to have been born in 1809. He was an early pioneer settler along the Delaware River, and fought in the ranks throughout the Civil War. He subsequently engaged in farming and lumbering, and remained in active and vigorous health until three months ago. He was a widower and leaves no surviving children.

INFANT MORTALITY IN 1913.—Report from New York on Jan. 5 indicates that the infant mortality rate in that city in 1913 was the lowest on record.

"The infant death-rate for the year is 102 per thousand births, the lowest infant rate in the history of the city. Last year the rate was 105.3 per thousand births. This means a decrease in the death-rate of 3.3 per thousand births, or the saving of over three out of every thousand babies born as compared with last year. The total number of deaths under one year of age from all causes in the greater city last year was 13,779. In 1912 there were 14,289 such deaths, that is 510 fewer babies died in 1913 than in 1912. Estimating on the increased population for the year, the report says this means a saving of 1,069 infant lives. The general health report of the city for 1913 shows a reduction in the death-rate per thousand population for all ages from 14.11 to 13.76."

HARVEY LECTURE.—The sixth lecture in the current series before the Harvey Society will be given at the New York Academy of Medicine on Jan. 17, by Prof. Victor C. Vaughn of the University of Michigan, on "The Phenomena of Infection."

Current Literature

MEDICAL RECORD.

DECEMBER 27, 1913.

1. *MUHLBERG, W. *A Few Practical Observations—the Result of Eight Thousand Examinations of Urine.*
2. AULDE, J. *Solving the Mystery of Bright's Disease—A Preliminary Paper.*
3. CRAIG, H. A. *The Treatment of Pneumonia by Bacterial Vaccines.*
4. BOEHME, G. F., JR. *The Determination of Changes in the Pain Sensations.*
5. MAHER, S. J. *The Progeny of the Tubercle Bacillus.*
6. FOSTER, G. S. *Appendiceal Infection, with Abscess Formation. Should the Appendix be Removed at the Primary Operation?*
7. SOBGATZ, F., AND BOLEND, R. *The Action of Acetic Acid on Syphilitic Blood Stains.*
8. MULLAN, E. H. *The Medical Inspection of Immigrants at Ellis Island.*
9. BARNES, L. E. *Eyestrain.*

1. Muhlberg records a few observations in a series of eight thousand specimens of urine from applicants for life insurance. Cylindroids (mucin threads) in excess were found in about 5% of the samples, and subsequent specimens from the same individuals often showed numerous casts and traces of albumin. In one case of nephritis now under his observation casts are usually very numerous, but at times are almost entirely replaced by typical cylindroids. [L. D. C.]

NEW YORK MEDICAL JOURNAL.

DECEMBER 27, 1913.

1. EWING, J. *The Cancer Research Hospital.*
2. GOLDMAN, A. L. *Ileocolitis with Meningeal Symptoms.*
3. BALL, C. F. *Serodiagnosis (Abderhalden) of Cancer and Pregnancy.*
4. AUERBACH, J. *Chronic Suppuration of the Middle Ear.*
5. COLLINGS, H. P. *The Resorts We Visited.*
6. *MAGIDA, N. *Acromial Breathing as an Aid in the Diagnosis of Apical Pulmonary Tuberculosis.*
7. BARTHOLOW, P. *The Etiology of Pellagra.*
8. GOLTMAN, A. *The Treatment of Bronchopneumonia in Children.*

6. Magida has been testing the value of acromial breathing as a diagnostic sign in apical phthisis at the Post-Graduate Hospital, New York. In this disease auscultation at the acromion process increases and amplifies all the auscultatory signs which are ordinarily obtained over the apices, so that a slight lesion should be detected more easily by listening at this place. The writer found "acromial breathing" present in all of 28 cases in the first stage, in 8 out of 14 second stage cases, and in 2 out of 10 third stage cases. He is convinced that this method deserves a place in physical diagnosis. [L. D. C.]

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

DECEMBER 27, 1913.

1. *BLOODGOOD, J. C. *Control of Cancer.*
2. JORDAN, E. O. *The Municipal Regulation of Milk-Supply.*
3. WOODS, M. *Seven Cases of Epilepsy in Children Traced to Single Alcoholic Intoxication on the Part of One or Both Parents Otherwise Teetotalers.*
4. *WOMER, W. A. *Results of Staphylococcus Spray Treatment in Forty-Two Cases of Diphtheria Carriers.*
5. ROGERS, A. C. *The Desirability of Early Diagnosis of Mental Defect in Children, and Mental Tests as an Aid.*
6. GOODHARDT, S. P. *Amnesias of Tobacco and of Malarial Origin, with Report of Two Cases.*
7. STILES, P. G. *A Case of Apparent Food-Poisoning of the Type Known as Botulism or Allantiasis.*

8. LOWELL, H. *Burn of Eyes from Contents of Golf-Ball Core.*
9. *CABLES, H. A. *Quinin and Urea Hydrochlorid in the Treatment of Sciatica.*

1. Bloodgood believes that the future success in the control of cancer lies in education of both layman and physician. He strongly urges early operation or exploration in the precancerous stage.

4. Womer states that the staphylococcus spray in diphtheria causes no unpleasant symptoms, but does not appreciably lessen the period of quarantine. The preparation and distribution of the spray is a laborious procedure, especially if there are many cases. Apparently most carriers do not spread the disease after sixty days from the day the disease begins. Public health officials could work more effectively if they had some practical method of determining the virulence of diphtheria bacilli form in the throats of carriers.

9. Cables has treated eight cases of sciatica with deep, but not intraneural, injections of a 4% solution of quinin and urea hydrochlorid in normal salt solution given on successive days until relief has come. The largest number of injections was eight. He thinks this method worth further trial. [E. H. R.]

JOURNAL OF INFECTIOUS DISEASES.

NOVEMBER, 1913.

1. *MEYER AND HARDENBERGH. *On the Value of the "Abortin" as a Diagnostic Agent for Infectious Abortion in Cattle.*
2. HEKTOEN. *The Production in Monkeys of Antibodies for Humane Corpuscles.*
3. *DE WITT. *Report of Some Experimental Work on the Use of Methylene Blue and Allied Dyes in the Treatment of Tuberculosis.*
4. BROADHURST. *The Effect of Meat and of Meat Extract Media upon the Fermentative Activity of Streptococci.*
5. *ARLSIN. *The Influence of Strychnin, Caffein, Chloral, Antipyrin, Cholesterol and Lactic Acid on Phagocytosis.*
6. KENDALL, DAY and WALKER. *Observations on the Relative Consistency of Ammonia Production by Certain Bacteria.*
7. LARSON AND BARRON. *Report of a Case in Which the Fusiform Bacillus was Isolated from the Blood Stream.*
8. KRUMWIEDE AND PRATT. *Fusiform Bacilli: Cultural Characteristics.*
9. *FULLER AND ARMSTRONG. *The Differentiation of Fecal Streptococci by Their Fermentation Reactions in Carbohydrate Media.*
10. KING AND HOFFMANN. *Spirochaeta Suis, Its Significance as a Pathogenic Organism. Studies on Hog Cholera.*
11. HARTMAN. *The Antigenic Properties of the Constituents of Pneumonic Exudate.*
12. LARSON AND BELL. *A Study of the Lesions Produced by Bacillus Proteus.*

1. Meyer and Hardenbergh conclude that the "Abortin test," as recommended by the English Commission, is thoroughly unreliable. They have prepared a purified material for intravenous injection, which has yielded encouraging results. But even with this modified material a high percentage of healthy animals show a positive febrile reaction. A positive reaction, even in an infected animal, does not show the stage or acuteness of the disease process.

3. Methylene blue was found to penetrate the tubercle, stain the living tubercle bacillus, and in some cases kill the bacillus in vitro, and in others lessen its virulence. When added to the culture media, a relatively small percentage of the substance inhibited the growth of the human tubercle bacillus. The author was unable to influence the disease in guinea-pigs through the therapeutic use of methylene blue.

5. Arlsin has made a thorough study of the influence of certain drugs upon phagocytosis. He found that the following general rules were true, *i.e.* substances favoring oxidation promoted phagocytosis and increased the immune bodies. The reverse of this general rule was found true in most instances. Alcohol, chloroform, ether, chloral, morphin and potassium cyanid depress phagocytosis in vitro. Conversely, sodium iodoxybenzoate, strychnin and certain colloid metals stimulate phagocytosis. The middle zone is occupied by such drugs as caffein and the antipyretics, which influence neither oxidation nor phagocytosis. It was found also that those drugs which depressed phagocytosis in vitro had a similar action when studied in vivo. He considers it important to consider with care the effects of agents on the processes of immunity when they seem indicated in infectious diseases.

9. The bacterial flora of human feces is characterized in general by the presence of streptococci producing large amounts of acid in dextrose (3.5-4%). The most frequent in occurrence is Str. fecalis (65%). Str. mitis is very often demonstrable. Str. equinus prevails in horse dung (55%), and Str. salivarius in cow dung (64%). [L. H. S.]

ANNALS OF SURGERY.

OCTOBER, 1913.

1. *MULLER, G. P. *The Treatment of Tuberculous Cervical Lymphadenitis.*
2. DAVIS, J. S. *Excessive Thickening of Thiersch Grafts Caused by a Component of Scarlet Red (Amidoazotoluol).*
3. NOLAND, L., AND WATSON, F. C. *Embolism and Thrombosis of the Superior Mesenteric Artery.*
4. HERTZ, A. F. *The Cause and Treatment of Certain Unfavorable After-Effects of Gastro-Enterostomy.*
5. SCHLEY, W. S. *Rectus Transplantation for Deficiency of Internal Oblique Muscle, in Certain Cases of Inguinal Hernia.*
6. *HULL, A. J. *Recurrence of Inguinal Hernia.*
7. *WHITE, G. R. *Contracture of the Psoas Parvus Muscle Simulating Appendicitis.*
8. COLT, G. H. *The Reduction of the Fragments Preliminary to Internal Splintage in Cases of Fracture of the Long Bones.*
9. ASHHURST, A. P. C. *Fractures through the Trochanters of the Femur.*
10. *STEINKE, C. R. *Simultaneous Fracture of Both Patellae.*
11. HORWITZ, A. E. *Uncomplicated Fractures of the Tarsal Scaphoid.*
12. MCDILL, J. R. *Cyst of the Fifth Metacarpal Bone.*
13. SHERRILL, J. G. *Direct Suture of the Brachial Artery Following Rupture, Result of Traumatism.*
14. POOL, E. H. *Suction Tip for Aspiration in Abdominal Operations.*

1. Müller's article is a study of 103 cases of cervical, inguinal and axillary tuberculous lymphadenitis in the service of Dr. Frazier at the University Hospital, Philadelphia, during the past twelve years. Sixty-nine of these cases have been traced, of which 53 were cured, 9 recurred, and 7 were dead. The operative mortality was nil. He considers sources of infection and portals of entry and surgical, x-ray, and tuberculin treatment, with especial reference to scar, nerve injury and recurrence. He advocates surgery in the majority of cases, employing the x-ray only in old indurated cases preliminary to operation and after curettage of sinuses and caseous abscesses. The use of tuberculin in such cases he regards as rational.

6. Hull's communication is based upon 57 cases which he has operated upon for recurrent inguinal hernia; 45 of these occurred after an operation of this type: opening of canal, ligation of neck of sac, and suture of the conjoined tendon over the cord to Poupart's ligament. The hernia was always to the inner side of the internal ring, pushing forward the peritoneum and transversalis fascia. Seven of the 57 occurred after an operation of this type: same as former with suture of conjoined tendon beneath cord to Poupart's ligament. The hernia was always to the outer side of the internal ring. He has rarely operated for a recurrence after a typical Bassini operation. After high ligation of the neck of the sac, and amputation, he carries the stump through the internal ring and fixes it one and one-half inches above the ring. Hull regards this procedure as "probably one of the most valuable steps in the operation for radical cure of hernia."

7. White reports six cases of pain and tenderness in right iliac fossa with apparent tumor, but without fever or digestive disturbance, operated upon during the past four years, in which the psoas parvus was found in a state of contracture and projected forward into the abdominal cavity. Tension was relieved by incising the main tendon and accessory bands. No other pathology was evident and this procedure has apparently cured.

10. Steinke reports two cases of simultaneous fracture of both patellae operated upon by Dr. C. H. Frazier of Philadelphia. He has made a careful search through the literature, giving epitomies of 43 cases and tabulating 44 cases, including the two he reports, with reference to sex, age, manner and type of fracture, mode of treatment and result.

[T. W. H.]

SURGERY, GYNECOLOGY AND OBSTETRICS.

DECEMBER, 1913.

1. *ALLISON, N., AND BROOKS, B. *The Mobilization of Ankylosed Joints; an Experimental Study.*
2. OSGOOD, R. B. *The End Results of Attempts to Mobilize Stiffened Joints.*
3. DEAVER, J. B. *Cholecystectomy.*
4. *MCKENNA, C. H. *Drainage of the Upper Intestinal Loop for the Relief of Ileus: Based upon Eight Clinical Cases Successfully Operated, and Animal Experimentation.*
5. *BROWN, W. L., AND BROWN, C. P. *Preliminary Report on Experimental Bone and Periosteal Transplantation.*
6. *CABOT, H. *Factors Influencing the Mortality of Suprapubic Prostatectomy.*
7. MEYER, W. *The Early Diagnosis of Cancer of the Esophagus.*
8. BARRINGER, B. S. *Renal Function.*
9. MALL, F. P., AND CULLEN, E. K. *An Ovarian Pregnancy Located in the Graafian Follicle.*
10. *BULKLEY, K. *Malignant Disease of the Testicle Retained Within the Abdominal Cavity.*
11. TAYLOR, H. C. *Educational Work in Carcinoma of Uterus.*
12. FRAZIER, C. H. *Lesions of the Hypophysis from the Viewpoint of the Surgeon.*
13. ROCKEY, A. E. *The Problem of Intestinal Stasis.*
14. *CUNNINGHAM, J. H., JR. *The Operative Treatment of Acute Gonorrheal Epididymitis.*
15. BRYANT, W. S. *The Protective Mastoid Operation; an Operation of Election.*
16. REICHELDERFER, L. H. *Postural Treatment of Post-Operative Abdominal Adhesions.*
17. MILLER, R. T., JR. *The Falciform Ligament of the Liver as Plastic Material Available for Use in the Upper Abdomen.*
18. COBURN, R. C. *The Selection of the Anesthetic Upon the Basis of Its Ultimate Physiology.*
19. RHODES, G. B. *A Modification of the Rectus Fascial Flap in Inguinal Hernioplasty.*

1. Allison and Brooks in a very interesting series of experiments on dogs' joints found the following conditions to develop: The denuded joint surfaces were at the end of five days covered with granulation tissue which grew from the marrow spaces. This granulation tissue developed into fibrous tissue, which later leads to fibrous ankylosis and is, according to Hoffa, the primary stage of osseous union. With the interposition of fascia lata, either in free pieces or in pedunculated flaps, the direct union of the denuded joint surfaces was prevented only in case the fascia transplant underwent necrosis and absorption. In those instances in which the flap persisted, in part, the islands thus formed acted as adhesions between the joint surfaces. There was no advantage in the use of a pedunculated flap. On the contrary, the pedicle persisted as an intra-articular band which checked joint motion. With the fascia impregnated with silver, the union of the denuded joint surface was prevented. Cargyle's membrane was absorbed within five days.

4. McKenna, as a result of dog experimentation with high bowel obstruction, makes the following deductions: Disturbance of innervation to the upper intestinal tract in the human sufficient to stop peristalsis, produces the same symptoms as mechanically blocking the same amount of intestine in the dog. High intestinal stasis, whether paralytic or mechanical, is much more serious than low obstruction. The fatal factor in acute obstruction may be found in the secretions from the duodenal mucosa. The fatal factor in general peritonitis may be due to a duodenal secretion and not to the effect of infection *per se*. When the condition of acute ileus is established early drainage of the duodenum is indicated, and this is best performed by jejunostomy.

5. Brown and Brown were unable in any experiment to reproduce bone from free periosteal transplants into the subcutaneous tissue and muscle, or to reproduce bone in the periosteal flap raised, left in contact with the bone, passed through muscle, and again contacted with periosteum. They were unable to reproduce bone in any experiment from free bone transplants, without periosteum, with the subcutaneous tissue and muscle, regardless of the size of the transplant. Absorption was the rule in every case. They were also unable to reproduce bone in a single experiment where bone was transplanted with free periosteum left intact, into muscle or subcutaneous tissue. These were also all absorbed. They were, however, uniformly able to reproduce bone when transplanted and contacted with living bone, or if it were in a position where it had a function to perform. Other necessary conditions being present for its reproduction, bone reproduces bone without the aid of periosteum. Transplants contacted with living bone and with no function to perform were inclined to absorption. Periosteum is not at all essential to the life and growth of bone as far as their work showed.

6. Cabot believes that because of greatly lessened shock and danger of post-operative lung and heart complications in suprapubic prostatectomy, spinal anesthesia is far more safe and indicated than any other form. He believes also that the usual methods of control of hemorrhage are careless and illogical, and advocates suture of the neck of the bladder as the most efficient means. With spinal anesthesia, and lessened shock, with efficient control of bleeding, the mortality from suprapubic prostatectomy will be greatly lessened, so that this method may be considered the route of election.

10. Bulkley believes that malignant disease of the abdominal testes occurs about once in 60,000 cases. About one in every four cases of malignant abnormally situated testicle is found within the abdominal cavity. About one malignant abdominal testicle occurs to each 15 malignant scrotal testicle. About one of each 75 abdominal retained testes will become malignant.

14. Cunningham believes that epididymotomy offers the best means of ending an acute epididymitis.

[E. H. R.]

THE INDIAN MEDICAL GAZETTE.

OCTOBER, 1913.

1. HOOTON, A. *A Note on Some Uses of a Modified Purin-Free Diet.*
2. SMITH, C. H., AND GRAHAM, G. F. *Relapsing Fever in Chitral, with an Account of Successful Animal Inoculations.*
3. MUNRO, D., AND WHITE, A. D. *Delayed Chloroform Poisoning.*
4. DUNN, J. J. F. *On the Use of Scopolamine, Morphine, and Atropine in Preventing Shock During Chloroform Anesthesia.*
5. SHEPPARD, A. L. *Intestinal Obstruction and Scurvy.*
6. NAPIER, A. H. *Is Syphilis a Factor in Blackwater Fever?*
7. GUPTA, S. C. D. *Notes on Some Excisions of the Thyroid Performed at the Sree Sree Sree Bir Hospital, Nepal (Khatmundu).*
8. DAS, B. *A Case of Myelocythaemia.*
9. ROUX, F. *Note on the Use of Chionanthus Virginiana in Diseases of the Liver.*
10. ROW, T. G. S. *Round Worms and Pregnancy.*
11. SCOTT, L. B. *A Surgical Curiosity.*

NOVEMBER, 1913.

1. LANE, C. *Ankylostomes and Ankylostomiasis in Bengal.*
2. *RODGERS, R. T. *Dysentery in the Raipur Central Jail.*
3. WALL, F. *Treatment of Snake Poisoning.*
4. WHITE, P. C. *A Case of Cobra Poisoning.*
5. SUDHONARAIN. *Epidemic Cerebro-Spinal Meningitis.*
6. NEWMAN, E. A. R. *Steam Sterilization and Hints on the Choice of a Sterilizer.*
7. ROGERS, L. *Retractile Pointed Stop-Cock Cannula for Giving Intravenous and Intraperitoneal Saline Injections Without Incision.*

2. From a careful statistic and clinical study of dysentery cases occurring in the Raipur jail from 1896 to 1912, inclusive, Rodgers finds them of mixed causation. In the amebic cases, emetine hydrochloride proved to be the best treatment. In the Shiga cases, treatment with Shiga vaccine gave good results, but prophylactic inoculation appeared to be of even greater value. The author believes this procedure harmless, and capable of being employed also in cases where terminal dysentery is feared.

[R. M. G.]

THE PRACTITIONER.

NOVEMBER, 1913.

1. *SCOTT, H. H. *Widal's Agglutination Reaction as an Aid in Prognosis in Enteric Fever. Based on a Study of Over Fifteen Hundred Consecutive Examinations.*
2. *KIDD, F. *The Diagnosis and Treatment of Haemic Infection of the Urinary Tract.*
3. BLUMFELD, J. *A Critical Summary of Some Recent Work on Anesthesia.*
4. BREND, W. A. *Law and Medicine*, 1912-1913.
5. JEX-BLAKE, A. J. *Recent Work on Diseases of the Lungs.*
6. *PATRICK, J. K. *Tuberculin in the Diagnosis and Treatment of Pulmonary Tuberculosis.*
7. *COOKE, A. D. S. *Tuberculin in the Diagnosis and Treatment of Tuberculosis.*
8. *DE KEATING-HART. *The Rational Treatment of Cancer.*
9. *MONOD, G. *On the So-called Movable Kidney Disease.*
10. ZUNDEL, C. E. *Infantilism.*
11. THORNE, L. T. *The Effect of Nauheim Baths upon Cardiac Conductivity.*
12. KENNEDY, C. M. *The Symptomatology of Cholelithiasis.*
13. *MILLER, A. G. *Is Enlarged Prostate the Cause of Residual Urine?*
14. TIRUMURTI, T. S. *The Relation between the Pancreas and Diabetes. With Notes of a Case of Pancreatic Calculi.*
15. CUSTANCE, G. W. M. *Case with Comments. Acute Pemphigus Due to an Infection of a Diplococcus.*
16. WALSHE, S. J. A. H. *Case with Comments. Effects on the Mental State of Minor and Major Attacks in Epileptic Insanity.*
17. ADAMS, J. B. *The Doctors in the Decameron.*

1. Scott, who has made a detailed study of typhoid and paratyphoid fever in Jamaica, bases this paper on an examination of 1500 specimens of blood on which he has done the Widal reaction. As a standard he decided that a serum of dilution 1:30 should agglutinate an 18° broth culture of the organism in 15 minutes, a dilution of 1:50 in 30 minutes and a 1:100 in one hour. He is of the opinion that a careful study of the patient's history, the degree and promptness of agglutination with both the typhoid and the paratyphoid organism give important points as to the prognosis and course of the disease. These points he discusses in detail with many illustrative cases. In localities where the disease is so common as it apparently is in Jamaica such studies as these are of great value.

2. Kidd believes that there is much to be done on the subject of pus in the urine and bacterial infections of the urinary tract. In this paper he discusses methods of examination, vaccine treatment, treatment by nephrectomy, and the diagnosis and treatment of pyelitis. He deplores the air of hopelessness which has grown up around chronic cases simply because they have not been examined.

6. In this paper Patrick discusses the preparation of tuberculin, technic of administration, the various kinds of tuberculin, dilution, use in diagnosis and treatment, the various reactions, and the selection of cases and principles of dosage. The paper, while presenting nothing new, is an interesting review of the subject.

7. This paper, shorter than the preceding, covers in a very general way the same subject, *i.e.* tuberculin in diagnosis and treatment.

8. In a short article on the rational treatment of cancer, the writer concludes that surgery may cure before the period of general infection: failure in operation will be very rare if associated with fulguration, even after a limited excision; thermo-radiotherapy will intensify the deep therapeutic value of x-rays and of radium in the treatment of many inoperable tumors.

9. Monod summarizes the treatment of nephroptosis (movable kidney) as follows: (1) The use of belts which he describes, (2) free action of the bowels, (3) a diet consisting chiefly of meat, and (4) sodium bicarbonate.

13. Miller in a short paper urges practitioners to remember that not all cases of residual urine are caused by an enlarged prostate, and that many patients by proper training and persistent effort can be taught to empty their bladder and avoid a prostatectomy.

[J. B. H.]

MÜNCHENER MEDIZINISCHE WOCHENSCHRIFT.

No. 49. DECEMBER 9, 1913.

1. *EICKE, H. *The Gold Reaction in Cerebro-spinal Fluid.*
2. VEIL, W. H. *Benign Albuminuria.*
3. LUST, F. *The Misuse of Albumin Water in the Treatment of Acute Indigestion in Infants.*
4. HENER, C. A. *The Experimental Transmission of Tumors to the Eye.*

5. RÜBSAMEN, W. *Clinical-Experimental Studies on the Action of Synthetic Drugs for the Induction of Labor.*
6. *SIEGRIST, R. *Nervous Fever in Tabes Dorsalis.*
7. HOLZKNECHT, G. *A Modified Bucky Illuminator.*
8. HARTMANN, J. *The Sensitiveness of Peritoneal and Abdominal Fascia.*
9. HARTUNG, E. *The Avoidance of Danger from Emboli Following Injections of Paraffin.*
10. STERN, K. *The Removal of Tattoo Marks.*
11. PORT, K. *The Nerve Points of Cornelius in Relation to Swedish Massage.*
12. JESSEN, F. *A New Rib Forcep and a New Blunt Muscle Retractor.*
13. ZINSSER. *A Simple Artificial Nose.*
14. KREUTER. *Edwin E. Goldmann.*
15. FISCHER, A. *Suggestive Notes from the Annual Vital Statistics of the City of Berlin.*
16. NASSAUER, M. *The High School for Physicians and Patients.*

1. Eicke describes his technic for the precipitation of globulins in syphilitic cerebro-spinal fluids by colloidal gold, and gives his findings on 323 cases. The reaction is based on the fact that globulins, nucleoproteins and other albuminous cleavage products, important in causing the Wassermann reaction, are precipitated with colloidal gold at a fixed dilution above or below which precipitation does not occur. In other words, the proteins of syphilitic cerebro-spinal fluids are precipitated by gold in dilutions at which non-syphilitic fluids are not, and can be differentiated accordingly.

Eicke tabulates his results with the test as performed in the manner described. The findings paralleled the Wassermann reaction in general, but in a few cases were positive where the Wassermann was negative, although such patients developed later symptoms of syphilis of the nervous system. Eicke concludes that the gold reaction is extremely delicate and specific and affords an additional means for the early diagnosis of cerebro-spinal lues.

6. A few cases of tabes have been reported in which crises of fever occurred with or without accompanying crises of pain. No explanation has been offered for such symptoms. Siegrist adds a similar case to the literature. The patient was a tabetic who had periodic attacks of fever lasting from one to four days, with temperature reaching as high as 39°. These were accompanied by severe gastric crises or lancinating pains and passed off without treatment. Whether this symptom complex was produced by a stimulation of the heat regulating centres or by increased heat production of a nervous nature, or was due to resorption of toxines is purely speculative.

[R. F.]

BERLINER KLINISCHE WOCHENSCHRIFT.

No. 44. NOVEMBER 3, 1913.

1 OPPENHEIM, H., AND BORCHARDT, M. *Experiences in Operation for Tumors of the Cerebellum.*
2. AXHAUSEN. *Some Unusual Lesions of the Upper Third of the Femur.*
3. UHLENHUTH, P., AND MULZER, P. *Further Communication on the Results of Experimental Investigations in Syphilis.*
4. HEGLER, C., AND ST. VON PROWAZEK. *Researches in Typhus Fever.*
5. POSNER, C. *Casts and Cylindroids.*
6. LESSER, F. *The Detection of Iodine in the Urine.*
7. LINDEMANN, W. *A New Ecbolic, and the Synthesis of Ecbolics.*
8. LANGAARD, A. *The Action of Aleudrin.*
9. HASEBROCK, K. *The Phylogenetic Conception of Spastic Contractures.*
10. OBERMILLER. *The Effect of Arsenic and Salvarsan; an Addition to My Work on the Action of Salvarsan.*
11. *BERGER, H. *Magnesium Sulphate in the Treatment of Tetanus.*

11. Meltzer and Auer in 1905 first studied carefully the physiological effects of magnesium sulphate; and its anesthetic action, following subcutaneous, intradural and intravenous administration has led to its use in tetanus. It has no specific effect on the toxin, but prevents the convulsions to a great extent. All three of the above methods of injection have been used, with gratifying results. Kocher reports six cures in seven cases. Meltzer and Auer have used a 25% solution. Kocher says that this is too strong, and that 15% is better—or even 10%. The difficult point to decide is the dose—the author says the maximum dose of the 15% solution should be 2 c.c. to 10 kilograms of body weight. Intradural injection is very effective, but must be used with great care and the patient watched constantly, so that artificial respiration and stimulation may be begun at once in the event of paralysis of the respiratory centres. This method of treatment should not supplant the tetanus antitoxin, but the two may with care be used together. The question of repeated doses depends on the extent and severity of each individual case. Auer says that "cases of tetanus in the hospital should always have this magnesium treatment." [R. H. M.]

DEUTSCHE MEDIZINISCHE WOCHENSCHRIFT.

No. 39. SEPTEMBER 25, 1913.

1. STICK, R. *The Present Status of Organ Transplantation.*
2. ARNETH. *Hot Baths in the Treatment of Bronchitis and Pneumonia in Infants and Children.*
3. KAFKA, V. *Value of Investigation of the Blood and Spinal Fluid in Nervous Disease.*
4. TRAUBE, J. *Narcosis and Similar Phenomena.*
5. HANSWIRTH, A. *Formaldehyde Fumigation without Apparatus.*
6. JANKOWSKI, J. *Resection of the Diaphragm.*
7. HERHOLD. *Lessons in Field Surgery from the Balkan War.*
8. DREYER, A. *Treatment of Induratio Penis Plastica.*
9. ENGEL, E. *The Treatment of the Toxemia of Pregnancy.*
10. KALLOS, J. *The Herrman-Perutz Syphilis Reaction.*

No. 40. OCTOBER 2, 1913.

1. KRAUS, F. *Pathology of the Thyroid, Parathyroid and Pituitary, and Their Interaction.*
2. v. BOKAY. *Local Treatment of Ulcers Following Intubation.*
3. *FRANK, E. *Diabetes.*
4. COHN, S. *Sodium and Calcium Metabolism in Diabetes.*
5. KOCHMANN, M. *Chloroform and Ether Narcosis.*
6. LONHARD. *The Treatment of Cardiac Failure in Pneumonia by Venesection and Epinephrin Injections.*
7. GUICHARD. *Differential Diagnosis of Echinococcus Cyst of the Lung.*
8. SCHÖNFELD, W. *Psoriasis a Constitutional Disease.*
9. GANS, O. *The Chemistry of the Cell and Nucleus.*

3. This article, from Minkowski's clinic, presents for consideration a new theory of the nature of diabetes. The present ideas on the subject, says the author, are like many others in medicine, worked out backwards from the results of therapy. In a brief consideration of the present theories, he points out the objections to each.

The organs which regulate carbohydrate metabolism are the nervous system and the pancreas. The latter

is the only organ partial or total extirpation of which will always cause glycosuria of varying degrees. Experimentally, Claude Bernard has shown that trauma to the nervous system may cause glycosuria, and clinically, diabetes often follows nervous strain. The glycosurias produced by adrenalin are regarded by the author as a special instance of the Langlay-Elliot law, which states that all organs supplied by the sympathetic react to adrenalin as to irritation of the sympathetic system. The thyroid and hypophysis he regards as of secondary importance in diabetes, producing their effect probably through their action on the sympathetic.

Frank believes that diabetes is to be regarded as a disturbance of glycogen metabolism, due to the effect on the liver of derangement of pancreatic function. In support of this theory he cites the fact that anastomosis of the pancreatic vein of a normal dog to the portal system of a depancreatised dog will cause a marked diminution in the glycosuria in the latter. It is probable, he believes, that in diabetes the lack of pancreatic hormone so disturbs the glycogen metabolism that the normal chemical phenomena can no longer occur, with resultant glycosuria and acidosis. [C. H. L.]

Correspondence.

THORIUM-X.

BOSTON, MASS., Jan. 5, 1914.

Mr. Editor: The statement that has appeared regularly in the daily papers indicating a monopoly of the Thorium-X supply in this country is not true.

The Auergesellschaft, Deutsche Gasglühlicht Aktiengesellschaft, 17 Rotherstr., Berlin, Germany, will supply it so that it can reach here 1,000,000 M.E. units strength.

For my own use in the treatment of cancer, I have an apparatus making 2,500,000 units a day and from my surplus I have been able to supply a sufficient amount for the treatment of a number of cases of rheumatism and anemias, including the pernicious type.

Yours truly,
FRANCIS D. DONOGHUE, M.D.

HERTER LECTURES.

The Herter Lectures of the University and Bellevue Hospital Medical College will be given during the week beginning January 12, 1914, at Carnegie Laboratory, 338 East 26th Street, New York City. Professor Sven Hedin will lecture on "Colloids and Their Relation to Biological Chemistry."

SOCIETY NOTICES.

THE NEW ENGLAND HOSPITAL MEDICAL SOCIETY.—The New England Hospital Medical Society will hold its annual meeting Thursday, January 15, at the Hotel Lenox. Dr. S. Josephine Baker, Director of Child Hygiene Department of Health, New York City, will be the guest of honor, and will address the meeting after a buffet supper.

The business meeting will be at six o'clock, followed by a short reception to Dr. Baker, preceding the supper. MARGARET L. NOYES, M.D., *Secretary.*

BOSTON MEDICAL LIBRARY in conjunction with the SUFFOLK DISTRICT MEDICAL SOCIETY.—Medical section meeting, John Ware Hall, Wednesday, January 21, 1914, at 8.15 P.M.. "Some Problems in Nephritis," Dr. Horace D. Arnold. Discussion by Dr. Henry A. Christian, Prof. Otto Folin and Dr. R. Fitz.

Light refreshments after the meeting.

EDWARD W. TAYLOR, M.D., *Chairman.*
LESLEY, H. SPOONER, M.D., *Secretary.*

NEW ENGLAND PEDIATRIC SOCIETY.—The twenty-ninth meeting of the New England Pediatric Society will be held in the Boston Medical Library, Friday, January 23, 1914, at 8.15 P.M.

The following papers will be read:

1. "A Case of Lymph Cyst of the Mesentery," Dr. Charles G. Mixter.
2. "The Influence of Alkalies on the Gastric Motility in Infants." Dr. Maynard Ladd.
3. "Infantile Scurvy," Dr. John Lovett Morse.
4. "The Etiology of Epilepsy," Dr. Arthur W. Fairbanks.

C. A. PRATT, M.D., *President*
FRITZ B. TALBOT, M.D., *Secretary.*

THE BOSTON SOCIETY OF MEDICAL SCIENCES.—The next meeting will be held on Tuesday evening, January 20, 1914, in the Amphitheatre of the Administration Building of the Harvard Medical School, at 8.15 o'clock.

Papers will be presented as follows:

Dr. F. H. Verhoeff: "Experimental Investigation of the Possible Therapeutic Value of Ultra Violet Light As a Germicidal Agent." (20 minutes.)

Dr. W. C. Quinby: "A Method for Crossed-circulation Experiments." (10 minutes.)

Mr. E. P. Lehman: "On the Rate of Absorption of Cholesterol." (10 minutes.)

Dr. E. G. Martin: "The Human Sensory Threshold During the Night." (10 minutes.)

THOMAS ORDWAY, *Secretary and Treasurer,*
Harvard Medical School.

RECENT DEATHS.

DR. FREDERICK C. BUSCH, who died on Jan. 3 of vesical carcinoma and terminal pneumonia at Buffalo, N. Y., was born in 1873. He was assistant superintendent of the Gratwick Cancer Laboratory, and professor of physiology at the University of Buffalo.

DR. BENNO A. HOLLENBERG, of New York, died on January 1. He came to America from Germany in 1860, and, having taken up his residence in Huntsville, Ala., he served for most of the Civil War in the Confederate Army. He was graduated from the College of Physicians and Surgeons, Memphis, in 1885, and had practised in New York since 1893.

DR. JAMES A. H. CURTIS, who died last week in Paterson, N. J., was born at Brampton, Canada, in 1877. He was a graduate of Albert College, Ontario, and of Trinity University, Toronto. He served for two years as house surgeon at the Paterson General Hospital, and subsequently settled in the practise of his profession at that city. He was a member of the New Jersey State and Passaic County Medical Societies. He is survived by his widow and by one daughter.

DR. FRANZ REDER, who died on Dec. 28, at St. Louis, was born in Mellrichstadt, near Munich, Bavaria, on March 14, 1829. After studying at the Universities of Munich, Würzburg, and Heidelberg, he migrated to the United States in 1860. He is survived by two daughters and three sons, two of the latter being also physicians.

DR. ANDREW FLINT SHELDON, who died on Jan. 4 at Lyons, N. Y., was born in 1829. He served throughout the Civil War successively as assistant surgeon of the Seventh New York Cavalry and of the Seventy-eighth New York Infantry, and as executive staff-officer in the medical director's office at Washington, D. C. After the war he was brevetted lieutenant-colonel. He was an originator of the field hospital tent.

DR. GEORGE EPHRAIM FULLER, a retired Fellow of The Massachusetts Medical Society, died at his home in Monson, Mass., Dec. 23, 1913, aged 74 years. He was a native of Wilbraham. He left Amherst College in 1861 to enter the Army and served altogether four years and seven months in the cause of the Union. He had practised in Monson since 1868 and at the time of his death was president of the Monson National Bank. He died suddenly of heart disease.